DOCUMENT RESUME

ED 118 419 SE 020 240

TITLE	Science and Technology for International Development: A Selected List of Information Sources in the United States and Bibliography of Selected Materials. Second Edition.
INSTITUTION	Cornell Univ., Ithaca, N.Y. Program on Policies for Science and Technology in Developing Nations.
PUB DATE	Feb 75
NOTE	122p.
AVAILABLE FROM	Cornell University, Program on Policies for Science and Technology in Developing Nations, 180 Uris Hall, Ithaca, New York 14853 ($4.00)
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage
DESCRIPTORS	Archives; *Bibliographies; *Developing Nations; Information Sources; *Library Collections; Literature Reviews; Reference Materials; Science Education; *Sciences; *Technology

ABSTRACT

This report updates a previous publication with the same title, issued in March 1972. The purpose of these reports has been to identify and document the services of information sources in the United States which might be of use to those working on policies for science and technology in developing nations. Many of the sources noted in the original edition have been updated and, in addition, several new sources of collections and services have been added. Of the two major sections of this work, the first identifies a number of U.S.-based libraries and organizations with major holdings in fields related to science and technology in developing nations along with a record of some of the smaller, more specialized collections of interest. The second section of this report is comprised of a bibliography of selected references related to the use of science and technology for development. Three main topics: (1) the transfer of technology, (2) industrialization, and (3) small-scale industries are emphasized, these being different from those addressed in the first edition. (Author/CP)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED118419

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SCIENCE AND TECHNOLOGY FOR INTERNATIONAL DEVELOPMENT: A SELECTED LIST OF INFORMATION SOURCES IN THE UNITED STATES AND BIBLIOGRAPHY OF SELECTED MATERIALS

(Second Edition)

Program on Policies
for Science and Technology
in Developing Nations
180 Uris Hall
Cornell University
Ithaca, New York 14853

February 1975

IRSE 020 240

PREFACE

There exists in the United States, a substantial body of literature on the subject of science and technology policy. Only a small fraction of it, however, is relevant to the corresponding issues in developing countries. Furthermore, this material,which is relevant,is widely dispersed in many libraries and institutions and in U.S. Government agency files. As a result, it is often difficult to locate. This Report is part of a continuing effort to identify and document the services of relevant information sources (in the United States) which might be of use to scholars and practitioners working on policies for science and technology in developing nations.

This Report is presented in two sections. The first identifies a number of U.S. based libraries and organizations with major holdings in fields related to science and technology in developing countries. It also includes some of the smaller, more specialized collections which are of particular significance. The Report updates a previous publication with the same title, issued in March 1972 by the Office of Science and Technology of the Agency for International Development. Many of the sources noted in the original edition are included here with updated information on current collections and services. In addition, several new sources have been identified and described with pertinent information for their use.

The second section of this Report is a bibliography of selected references relevant to the use of science and technology for development. While these references cover a wide variety of topics, three in particular have been emphasized: the transfer of technology; industrialization; and small-scale industries. It should be noted that the topics emphasized in this edition differ from those addressed in the first edition. Although the previous list of libraries and organizations is superseded by the current list, the two bibliographies are complementary. The bibliography is not exhaustive, but is intended to give the reader a broad overview of the key works on these topics.

Ms. Mary Acton, a graduate student in the Field of City and Regional Planning at Cornell, was instrumental in gathering and compiling the information presented in this Report.

We gratefully acknowledge the cooperation and support of the Office of Science and Technology of the Agency for International Development and the respondents from the sources listed herein.

Table of Contents

Preface i

A. List of Information Sources

Scope of Applications of Science and Technology Considered in this Report 1

List of Information Sources by Application . . . 3

Description of Information Sources
General Purpose Sources 6
Specialized Sources
Infrastructure for Science and Technology 21
Industrial Technology 24
Natural Resources Planning and Management 37
Medical Technology 51

B. Bibliography. 53

Acronyms Used in the Bibliography. 54

I. Bibliographies 56
II. Over-All Views of Science, Technology and Development. 57
III. Policies and Planning for Science and Technology 62
IV. Infrastructure, Research and Promotion . . 64
V. Channels for Technological Information Flow
a. Information Systems (International). 67
b. Patents and Licensing. 68
VI. Industrialization. 70
VII. Appropriate Technology/Intermediate Technology/Employment. 72
VIII. Technology Transfer. 77
IX. Technical Assistance and Cooperation . . . 83
X. Small-Scale Industry 85
XI Education and Manpower 88
XI Agriculture 89
XI Natural Resources. 91
Xi Health 92
X Industry/Technical Studies and Reports
a. Agriculture. 93
b. Natural Resources. 93
c. Food Processing. 94
d. Power. 94
e. Low-Cost Housing and Construction. . 94
f. Transportation and Automobile Industry 96
g. Metallurgy and Chemical Industries . 96
h. Machine Tools. 97
i. Computers. 97
j. Remote Sensing 98

XVI. Country Studies/Regional Studies. 95
XVII. Analysis and Methodology. 103

Author Index. 105
Organization Index. 113
Country and Region Index. 116

A. LIST OF INFORMATION SOURCES

Scope of Applications of Science and Technology Considered in this Report

The scope of subject matter for which the information sources were selected includes:

Infrastructure for effective use of science and technology in developing countries:

- -- developing national level science and technology policies, priorities, and organizational responsibilities, and strengthening institutional mechanisms for implementing national decisions in this field;
- -- developing improved operational interaction among science and technology programs in government, industry and universities and focusing those programs on national needs and priorities;
- -- building institutional capabilities and communication networks for acquisition, processing, analysis, distribution and utilization of scientific and technological information; and
- -- developing and strengthening of appropriate scientific and engineering training and research capabilities, with particular emphasis on the role of university research in economic development.

Industrialization in developing countries:

-- upgrading national and regional capabilities in standards, and quality control and industrial research, and improving the capability of indigenous industry to recognize the value of and to use such services;

-- supporting development of skills and techniques for assessing the impact at national, regional and enterprise levels of alternative technological solutions to development problems;

-- stimulating the development and introduction of industrial technologies appropriate to the labor, capital, and natural resource endowments of developing countries, including adaptation of suitable modern technologies and technical support of small-scale industry; and

-- increasing the contribution of technology in improving the quality and performance of economic infrastructure activities supported by national budgets, such as public works and transprotation, and quasi-public corporations concerned with areas such as the application of remote sensing.

Natural Resources planning and management in developing countries:

-- improving techniques for managing and conserving resources, including land use planning, technical basis for awarding concessions, and monitoring resource development;

-- improving exploration and mapping techniques, and upgrading the ability to identify and appraise resources while reducing the time and cost involved;

-- managing resources (including protection and rehabilitation), monitoring pollution and abatement, natural disaster investigations, land reclamation, and water and waste management; and

-- identifying technological possibilities for increasing value added locally to resources, and developing underutilized resources.

Medical Technology for developing countries:

-- adapting and using available technologies in medicine, particularly in the field of rehabilitating the disabled.

List of Information Sources by Application

Infrastructure for Effective Use of Science and Technology in Developing Countries:

National Referral Center, Library of Congress (p. 6)

Science and Technology Division, Library of Congress (p. 7)

Reference Center, Agency for International Development (p. 9)

Columbus Memorial Library, Organization of American States (p. 10)

Joint Library, International Bank for Reconstruction and Development (p. 11)

Library, Inter-American Development Bank (p. 12)

Library, Department of State (p. 13)

Reference and Documents Section, Bureau of International Organization Affairs (p. 14)

Library System, Cornell University (p. 21)

Littauer Library, Harvard University (p. 22)

Library, National Science Foundation (p. 23)

Society for International Development (p. 15)

Industrial Technology:

Innovation Information and Analysis Project, George Washington University (p. 24)

National Referral Center, Library of Congress (p. 6)

Science and Technology Division, Library of Congress (p. 7)

Library, National Academy of Sciences/National Academy of Engineering (p. 8)

Reference Center, Agency for International Development (p. 9)

Columbus Memorial Library, Organization of American States (p. 10)

Joint Library, International Bank for Reconstruction and Development (p. 11)

Library, Inter-American Development Bank (p. 12)

National Technical Information Service, Department of Commerce (p. 25)

Volunteers in Technical Assistance, Inc. (p. 27)

Library, National Bureau of Standards (p. 28)

Technical Information Center, U.S. Atomic Energy Commission (p. 29)

Library, Massachusetts Institute of Technology (p. 31)

International Development Data Center, Georgia Institute of Technology (p. 32)

Institute for Scientific Information (p. 16)

Associated Technical Services, Inc. (p. 19)

The Institute of Paper Chemistry (p. 33)

Chemical Abstracts Service, American Chemical Society (p. 34)

Institute of Transportation and Traffic Engineering, University of California (p. 36)

Natural Resources Planning and Management:

National Referral Center, Library of Congress (p. 6)

Science and Technology Division, Library of Congress (p. 7)

Library, National Academy of Sciences/National Academy of Engineering (p. 8)

Reference Center, Agency for International Development (p. 9)

Columbus Memorial Library, Organization of American States (p. 10)

Library, Inter-American Development Bank (p. 12)

Volunteers in Technical Assistance, Inc. (p. 27)

National Agricultural Library, U.S. Department of Agriculture (p. 37)

Library, U.S. Geological Survey (p. 38)

Water Resources Division, U.S. Geological Survey (p. 39)

Engineer Agency for Resources Inventories (p. 40)

Geology Library, University of Illinois (p. 41)

Library, Water Resources Research Institute, Auburn University (p. 42)

Environmental Science Information Center, National Oceanic and Atmospheric Administration (p. 43)

Library, U.S. Forest Service (p. 44)

Agricultural Experiment Station, Purdue University (p. 45)

F. Franklin Moon Library, SUNY, Syracuse (p. 46)

Library, University of Washington (p. 47)

Document Library, Woods Hole Oceanographic Institution (p. 48)

Library, Department of Fisheries and Marine Technology, University of Rhode Island (p. 49)

Technical Library, Tennessee Valley Authority (p. 50)

Medical Technology:

Rehabilitation International (p. 51)

DESCRIPTION OF INFORMATION SOURCES

General Purpose Sources

1. National Referral Center

Library of Congress
Washington, D.C. 20540

Contact Point

Referral Specialist
202-426-5670

Collection Strength

A subject-indexed data base, continuously updated by a professional staff of analysts, that contains descriptions of some 10,000 organizations (called "information resources" by the Center) having specialized knowledge in some area of science or technology. These organizations range from professional societies, university research bureaus and institutes, federal and state agencies and units within them, industrial laboratories, museum specimen collections, testing stations, and individual experts to more traditional sources of information such as technical libraries, information and document centers, and abstracting and indexing services.

Publications

A series of directories, based on broad selections from its data base, has been published by the Center under the general title, A Directory of Information Resources in the United States. These volumes are subtitled as follows: Federal Government, Revised Edition (1974); Social Sciences, Revised Edtion (1973); Biological Sciences (1972); Physical Sciences, Engineering (1971); General Toxicology (1969); and Water (1966). The directories are sold by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

Information Services

In response to requests for assistance, the Center's referral specialists provide names, addresses and telephone numbers of appropriate information resources and give a brief description of what to expect from each. This referral service is available without charge, by telephone, correspondence or through personal visits.

2. Science and Technology Division

Library of Congress
Washington, D.C. 20540

Contact Point

Miss Constance Carter
Head, Reference Section
202-426-5580

Collection Strength

The subject fields of science and technology are represented in the Library of Congress by 3 million books, nearly 20,000 journal titles, and about 2 million technical reports. Available in the Divison's Science Reading Room are all major abstracting and indexing journals in the physical, earth, biomedical, and engineering sciences. The Division has immediate custody of an extensive collection of reports (some 1.2 million titles), most of them in microfilm, including those issued by the Atomic Energy Commission, National Aeronautics and Space Administration, Department of Defense, and other Government Agencies.

Publications

LC Science Tracer Bullet, an informal series of reference guides on various topics (e.g., acupuncture, noise pollution, geothermal energy, science in 18th century America) distributed free on request; Antarctic Bibliography (annual).

Information Services

The Division has primary responsibility for providing reference and bibliographic services on the Library's overall science and technology collections. Brief technical inquiries entailing a bibliographic response are answered without charge. Extensive literature searching and bibliographic services are provided on a fee basis. Individuals performing their own literature searches may use the Science Reading Room, where microform readers are available for use with the technical report collection.

3. Library

National Academy of Sciences/National Academy of Engineering
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Contact Point

Mr. James L. Olsen, Jr.
Librarian
202-389-6272

Collection Strength

A virtually complete archival collection of the publications of the National Academy of Sciences (1863), its National Research Council (1916), the National Academy of Engineering (1964), and the Institute of Medicine (1970); biographical publications, scientific dictionaries and encyclopedias; major indexing and abstracting services; and 500 periodical titles. National Academy of Sciences reports relating to many developing countries are available in the Library.

Publications

None

Information Services

Library services are mainly for Academy personnel. However, inquiries requiring reference services based on the collections are accepted, and the collections are accessible for on-site use and by interlibrary loan by the scientific and academic community, Government officials, industrial and commercial organizations, and students. Those unfamiliar with the institution and its library are advised to contact the librarian or assistant librarian prior to their first visit.

4. Agency for International Development

Department of State
Washington, D.C. 20523

Contact Point

Miss Edna Falbo
Chief, Reference Center
202-632-9345

Collection Strength

Science and technology for application in the less developed countries, including agriculture, rural development, industrialization, natural resources, science policy, engineering, food assistance, food from the sea, public health, housing and urban development, nutrition and child feeding, and population; background information in investment opportunities in less developed countries. Technical reports, surveys, studies, etc. prepared in support of specific technical and capital assistance projects.

Publications

Occasional bibliographies; accession lists.

Information Services

Answers inquiries; makes referrals.

5. Columbus Memorial Library

Organization of American States
Seventeenth and Constitution Avenue, N.W.
Washington, D.C. 20006

Contact Point

Information
Mr. Jorge Grossman
Associate Librarian for Reference
202-381-8408

Exchanges
Mr. Mary Broadbent
Head Acquisitions Librarian
202-381-8208

Collection Strength

1) books, reports, periodicals, bibliographies, pamphlets, and publication lists related to social sciences and humanities in Latin American countries; 2) OAS documents; and 3) International organizations documents.

Publications

Ciencia Interamericana (journal, 5 issues/year, in Spanish); Scientific Monographs (10-15 issues/year, in Spanish and Portuguese) on physics, biology, chemistry and mathematics; Reports and Proceedings.

Information Services

Permits on-site use of collection; exchanges publications.

6. Joint Library

International Bank for Reconstruction and Development
19th and H Streets, N.W.
Washington, D.C. 20431

Contact Point

Librarian
202-477-3167

Collection Strength

Particularly strong in publications on developing countries, including country development plans, pre-feasibility and feasibility studies for country development projects, and World Bank study reports related to capital loans. The Bank also has available extensive data on population, socio-economic indicators, economic growth, international capital flow and external debt, and international trade.

Publications

Accession lists and occasional bibliographies.

Information Services

On-site reference with permission.

7. Library

Inter-American Development Bank
808 17th Street, N.W.
Washington, D.C. 20577

Contact Point

Dr. Julio Broide
Chief of Library
202-382-3972

Collection Strength

The Library has about 26,000 items, mainly on economic and social development in Latin America, and around 1,000 periodicals. It also has a Cultural Library on Latin America with approximately 7,000 books. The special emphasis of this sector is literature, history, sociology, philosophy, and political subjects on each of the member countries of Latin America and the Caribbean.

Publications

Occasional bibliographies and accession lists.

Information Services

Answers inquiries; makes referrals.

8. Library

Department of State
Washington, D.C. 20520

Contact Point

Librarian
202-632-0486

Collection Strength

The State Department Library has a particularly strong collection in diplomatic history, international political and economic development, and socio-cultural trends in developing countries. The library contains information on all areas of the world and their peoples in more than 800,000 volumes.

Publications

Accession lists and occasional bibliographies.

Information Services

The library is not open to the public except in regard to items not available elsewhere.

9. Reference and Documents Section

Bureau of International Organization Affairs
Department of State
Washington, D.C. 20520

Contact Point

Chief of Section
Mrs. Dorothy B. Thomas
202-632-7992

Collection Strength

The Section maintains a complete file of all United Nations documents.

Publications

None

Information Services

The Section provides research and reference services on UN documents for the Department and other Government agencies. On-site reference can be arranged with special permission.

10. Society for International Development

1346 Connecticut Avenue, N.W.
Washington, D.C. 20036

Contact Point

Donaldine S. Finegold
Coordinator
Reference Service on Development Information
202-296-3810

Collection Strength

Working library is essentially for references (directories, bibliographies, handbooks, periodicals, statistical reports, etc...) pertaining to international economic and social development. These total around 400 documents at any given time.

Publications

International Development Review: a quarterly journal of opinion and comment by scholars and practitioners of development.
Survey of International Development: a bimonthly newsletter of the major events of international development and aid. Also available in French and Spanish.
FOCUS: Technical Cooperation: a quarterly journal dealing with the concepts, issues and experiences relating to international technical cooperation activities. Also included in the International Development Review.

Information Services

Reference Service handles inquiries on development problems primarily from members. These may range from questions on substantive material to inquiries for referral.

11. Institute for Scientific Information

325 Chestnut Street
Philadelphia, Pa. 19106

Contact Point

Mr. Richard Harris
Vice President, Marketing
215-WA3-3300, Ext. 340

Collection Strength

Type of materials: scientific and professional journals.
Subjects: every scientific discipline including the social and behavioral sciences.
Backfiles: up to 5 years by September 1975.
Receive approximately 4,500 journals.
Collection is not open to the public, but tear sheets of individual articles may be requested through OATS (Original Article Tear Sheet) service.

Publications

Science Citation Index (SCI): citation index to the complete range of scientific and technical literature. Has ability to search forward in time from previously published articles. Issued quarterly, cumulated annually. Annual issues available from 1961 to present. Also available in five-year cumulation that covers 1965-69.

Permuterm Subject Index (PSI): subject index of journal articles that uses a permuted title-word indexing system. Provided as part of the Science Citation Index system and the Social Sciences Citation Index.

Social Sciences Citation Index (SSCI): applies citation and Permuterm indexing to the journal literature of the social sciences. Starts with the literature of 1970.

Current Contents (CC): Weekly, multidisciplinary, current awareness publications which are reproductions of the tables of contents of important journals published world-wide. Available in six editions that cover up to 1,000 journals in each of the following classifications:

Agriculture, Biology and Environmental Sciences;
Social and Behavioral Sciences;
Clinical Practice;
Engineering, Technology and Applied Science;
Life Sciences;
Physical and Chemical Sciences.

Index to Scientific Reviews (ISR): index to help researchers locate over 20,000 review articles and state-of-the-art surveys published in over 100 science disciplines each year. Issued semi-annually, cumulated annually; starts with review literature of 1974.

Current Abstracts of Chemistry and Index Chemicus (CAC&IC): weekly abstract service that tells what is published in organic chemistry within a month after it appears. Special emphasis on new chemical compounds, reactions, and analytical methods. Covers over 150,000 new compounds per year with almost 2 million compounds recorded from 1960 to present.

ISI's Who is Publishing in Science (WIPIS): comprehensive annual directory of publishing scientists. Provides names and addresses of nearly a quarter million scientists each year, indexed by name, geographic area and organization.

Information Services

ASCA (Automatic Subject Citation Alert): individualized, computer-produced, weekly alerting service designed to inform scientists about current articles specifically relevant to their personal areas of interest. Covers 3,800 important journals.

ASCATOPICS: a computer-produced, weekly alerting service. Covers 470 selected research areas of broad interest.

ISI Search Service: personal, custom-tailored service in which information specialists search out the answers to almost any type of question on science or the social sciences.

Original Article Tear Sheet Service (OATS): international library service which provides the original tear sheets of journal articles reported, abstracted or indexed by any ISI service. Articles can be ordered by Telex as well as by mail and phone. Special 24-hour response service available.

ISI Magnetic Tapes: weekly magnetic tape service which provides the Science Citation Index (400,000 items a year) and the Social Sciences Citation Index (70,000 items a year) in computer searchable form. Software available.

Index Chemicus Registry Service (ICRS): monthly magnetic tapes that provide all the new-compound information reported in Current Abstracts of Chemistry and Index Chemicus. Tapes can be searched by compound family, substructure, biological activity, application, method of analysis, researcher, journal, and subject indexing term. Software provided.

Scisearch: an on-line interactive, computer search system for the file on the life sciences journal literature. Initial coverage includes over 400,000 items from the recent literature. Updated monthly.

Social Scisearch: on-line, interactive system covering same journals as Social Sciences Citation Index. Covers literature of last five years; adds over 80,000 new items each year, updated monthly.

ISI Special Projects: ISI's resources and know-how are available for special projects.

All ISI publications and information services are on sale to the public.

12. Associated Technical Services, Inc.

855 Bloomfield Avenue
Glen Ridge, N.J. 07028

Contact Point

Leon Jacolev, Technical Director
201-748-5673

Collection Strength

Areas of interest: all major physical and life sciences, technology and engineering.

Activity: retrieval, translation and dissemination of foreign scientific information in 42 languages, with particular emphasis on Russian and Japanese. Consulting in Russian scientific documentation, publications and patents. Advisory and translation services for business and technical specialists concerned with technology and research in areas of petroleum refining, oil and gas production, petroleum geology, chemical engineering and technology, chemistry, geophysics, and many other branches of science and engineering. Company also provides worldwide photocopy service covering scientific and engineering publications of ALL countries, including the Eastern bloc. Patents and patent applications a specialty. Dictionary and Book Division provides the most extensive dictionary selection in the world, well over 2,000 dictionary titles are available for sale. Coverage of practically all branches of science and technology, as well as general purpose dictionaries.

Library: specially assembled and continuously expanded to serve translation and foreign literature research needs. Bound volumes, excluding dictionaires, 5,300: dictionaries, 2,700: technical translations, 14,400: 15 vertical files: 120 Russian and English scientific periodicals.

Publications

Russian Oil and Gas Bulletin: bimonthly reportage of scientific papers published in the Soviet Union in the fields of petroleum geology, engineering, geophysics, micro paleontology, geochemistry, pipelining, corrosion and related areas. Special plan provides subscribers with English translations of reported papers.

Lists of Technical Translations: report translations generated in all fields of science and technology by ATS.

Dictionary Catalog and Bibliography: bibliographic data covering 2,000+ dictionary titles in some 40+ languages; general, science and technology, abbreviations and acronyms, translation aids and tools; librarianship; etc....

Information Services

Translations in all fields of science and technology; literature research with emphasis on Russian, Japanese, German, French; worldwide photocopy service covering scientific publications and patents; sale of technical and general dictionaries with over 2,000 titles in stock; consulting services covering foreign science and technology, especially Russian and Japanese; consultants in documentation and translation problems. Available publications: Lists of Technical Translations, Dictionary Catalog, Russian Oil and Gas Bulletin.

Library is NOT open to the public, but is intended for staff use. Visits by interested parties subject to special arrangement.

Specialized Sources

Infrastructure for Science and Technology

1. Library System

Cornell University
Ithaca, New York 14850

Contact Point

Mr. David Kaser
Director
607-273-4321

or

Dr. F.J. Ahimaz
Assistant Director
Program on Policies for Science and Technology
in Developing Nations
180 Uris Hall
607-256-6484

Collection Strength

Extensive collection on science and technology, including material directly relevant to developing countries.

Publications

Occasional bibliographies and accession lists.

Information Services

Answers inquiries, makes referrals.

2. Littauer Library

John F. Kennedy School of Government
Harvard University
Cambridge, Massachusetss 02138

Contact Point

Natalie Schatz
Reference Librarian
617-495-2106

Collection Strength

The Littauer Center is designed as a center for the School and other activities of the University relating to public policy and government service. A large part of the library resources (present count near 280,000 volumes and pamphlets) is made up of selected Federal and State government documents.

Publications

None.

Information Services

Answers inquiries; makes referrals.

3. Library

National Science Foundation
1800 G Street, N.W.
Room 219
Washington, D.C. 20550

Contact Point

Mrs. Frances M. Pentecost
Librarian
202-632-4070

Collection Strength

The National Science Foundation Library contains about 16,000 volumes and receives about 800 periodicals. The collection includes general works and recent research developments in the fields of the physical, biological and social sciences, science policy, research applied to national needs, energy, and the environmental sciences. Emphasis is placed on developing the collection in the fields of history and philospohy of science, administration of scientific research, education and teaching in the sciences, national and international science policy, research applied to national needs, energy, and the environmental sciences.

Publications

Journals received by the Library; National Sicence Foundation (annual: June 1974 is current edition); Library Guide; Library Reading List (bimonthly).

Information Services

Open to the public.

Industrial Technology

1. Innovation Information and Analysis Project

Program of Policy Studies in Science and Technology
The George Washington University
2130 H Street, N.W. - Suite 714
Washington, D.C. 20006

Contact Point

Mrs. Natalie Hawley
Chief Information Specialist
202-676-6450

Collection Strength

The collection includes some 7000 documents, mostly articles from periodicals, some government papers and reports, and books. The primary concentration is on innovation in technology, transfer of technology and includes some international references and case studies.

Publications

Accessions lists, book lists, indexes and bibliographies, some of which are annotated.

Information Services

Although the Project mainly serves the National Science Foundation, its services are available to other specialized libraries and individuals. Analytical services and bibliographic searches are provided at cost.

2. National Technical Information Service

Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22151

Contact Point

703-321-8500

Collection Strength

NTIS is a central source for the public sale of Government-sponsored research, development and engineering reports, translations and other analyses by Federal agencies, their contractors or grantees, and it is a central source for Federally-generated machine processable data files and programs. The NTIS collection exceeds 800,000 titles and grows at a rate of approximately 60,000 reports per year.

Publications

(1) Government Reports Announcements (GRA) and its companion, Government Reports Index (GRI), issued every two weeks containing abstracts and index to reports and translations offered for sale by NTIS;
(2) Weekly Government Abstracts (WGA) are weekly newsletters containing current abstracts in various selected categories of interest;
(3) the magnetic tapes from which the journals are prepared are available as are other magnetic tapes in a wide variety of fields;
(4) a quarterly abstract journal, Application of Modern Technologies to International Development (AMTID) is published as part of a joint U.S. Agency for International Development and NTIS program to bring certain U.S. technical publications to the attention of interested individuals and organizations in developing countries.

Information Services

NTIS provides scientists, engineers, businessmen, industrial and academic organizations, the Federal community, and the general public with unclassified information resulting from Government-sponsored research and development. Sale of Reports: Items listed in GRA are made available for the cost of reproduction and handling in one of two forms--as printed pages

or as microfiche (4 x 6 inch microphotography sheets, covering up to 96 pages per sheet). An on-line computer-based custom bibliographic search service, (NTISearch) can locate abstracts of interest among the 400,000 Federally-sponsored research documents published since 1964 and among 100,000 ongoing projects. A microfiche service, Selected Research in Microfiche (SRIM), with a custom profile option, automatically provides subscribers with the full texts of reports in categories of interest they select. In addition, NTIS is the marketing coordinator for various Information Analysis Centers in the U.S., for their publications and technical inquiries.

3. Volunteers in Technical Assistance, Inc. (VITA)

3706 Rhode Island Avenue
Mt. Ranier, Maryland 20822

Contact Point

Brij Mathur
Librarian
301-277-7000

Collection Strength

The VITA Library contains an extensive collection of reports on intermediate technology relevant to developing countries, including more than 200 manuals and sets of plans on complex technology, simplified and oriented to rural and agricultural use in developing countries. The plans, designed for labor-intensive economies, are available in ten categories: agriculture; insect and pest control; water resources; home improvement; surveying; construction; transport; rural industry equipment; education and communications; village power sources. Also included in the library are business service bulletins, plant requirement reports, industry profiles, technical digest summaries, and approximately 1,600 reports and studies covering economics and social conditions, industry and marketing status, and feasibility and investment studies in 120 countries.

Publications

Handbooks and manuals. List available on request.

Information Services

Reference services and advice on intermediate technology for development by phone, correspondence, or on-site visit.

4. Library

National Bureau of Standards
Gaithersburg, Maryland 20234

Contact Point

Librarian
301-921-3451

Collection Strength

Mathematics; physics; metrology; mechanics; acoustics; optics; spectroscopy; nuclear physics; electricity and magnetism; chemistry (analytical, inorganic, organic, physical); crystallography; engineering; metallurgy; polymers; electronics; computer technology; standards and specifications; fire research; environmental pollution. Over 100,000 books, bound volumes of periodicals, and publications of scientific and technical institutions throughout the world. About 2700 periodicals are received currently.

Publications

Occasional bibliographies and accession lists.

Information Services

To those outside the National Bureau of Standards, the library answers inquiries, makes interlibrary loans, and permits on-site reference.

5. Technical Information Center

(formerly Division of Technical Information Extension)
U.S. Atomic Energy Commission
P.O. Box 62
Oak Ridge, Tennessee 37830

Contact Point

Manager
615-483-8611 (ext. 3-4352)

Collection Strength

Nuclear science and technology, including the body of knowledge related to production properties, principles, and phenomena of atomic nuclei, subatomic particles, gamma-rays and X-rays, and the application of the principles and phenomena of nuclear science to other sciences and engineering, and, conversely, the application of other sciences and engineering to the problems of nuclear science. The AEC's master collection of atomic energy literature, including AEC and AEC-contractor technical reports, journal articles, conference papers and proceedings, patents, dissertations, books, monographs, and critical reviews, pertinent reports of other U.S. agencies and their contractors, reports of other countries having atomic energy programs, English translation of foreign atomic energy literature, and engineering drawings, specifications and related materials.

Publications

Nuclear Science Abstracts (semi-monthly, with personal author, corporate author, report number, and subject indexes), providing worldwide coverage of unclassified atomic energy literature;

A Technical Progress Review "Nuclear Safety" (bi-monthly), summarizing and evaluating recent developments in nuclear safety;

"Title Listing of Power Reactor Docket Information" (monthly) containing citations and subject indexing to the documentation associated with U.S. civilian nuclear power plants;

"Regulatory Adjudication Issuances and Issuances of the Board of Contract Appeals" (monthly) providing the full text of issuances from the U.S. Atomic Energy Commission, the Atomic Safety and Licensing Appeal Boards, the Atomic Safety and Licensing Boards, and the Board of Contract Appeals.

TIC will, upon request, provide the following free publications:

Science Information Available from the Atomic Energy Commission (TID 4550), a guide to AEC's science-information programs and services;

Books and Monographs sponsored by the United States Atomic Energy Commission, a catalog giving titles, scope, price and availability of items listed.

Information Services

The TIC provides reference and literature searching services to qualified requesters. The majority of AEC's unclassified reports, critical reviews, symposia proceedings, translations, etc. may be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151.

6. Library

Massachusetts Institute of Technology
Cambridge, Massachusetts 03139

Contact Point

Ms. Frances Stefan
Program for Technology Adaptation for
Developing Countries
617-253-7981

Collection Strength

Reference catalog of material relating to technology adaptation with particular reference to developing countries.

Publications

Occasional bibliographies; accession lists.

Information Services

Answers inquiries; makes referrals.

7. International Development Data Center

Industrial Development Division
Georgia Institute of Technology
Atlanta, Georgia 30332

Contact Point

Richard Johnston, Research Specialist
Kay Ellen Auciello, Assistant Research Scientist
404-894-3875

Collection Strength

IDDC exists to support an U.S. Agency for International Development 211(d) contract project "Employment Generation Through Stimulation of Small Industries" of the International Branch of the Industrial Development Division, Georgia Institute of Technology. The scope of the collection is international with emphasis on LDC's. Subject strengths are small scale industry, industrial development, technical assistance, technology transfer, technology selection, economic development. The collection is comprised of 2000 pamphlets, books and directories, 275 serial titles, and vertical files of maps and tourist and travel information.

Publications

IDDC contributes to Small Industry Development Network, a newsletter published by the Industrial Development Division.

Information Services

IDDC performs research related to 211(d) project for Industrial Development staff and counterpart country personnel, gives information assistance to Engineering Experiment Station staff, Georgia Tech faculty and students and provides such assistance to others as time and resources allow. IDDC does bibliography compilation, literature searches and indexing selected serials held by IDDC.

8. The Institute of Paper Chemistry

P.O. Box 1048
Appleton, Wisconsin 54911

Contact Point

W. S. McClenahan
Director, Division of Information Services
414-734-9251

Collection Strength

Subjects covered include pulp and paper technology and related subjects. Special collection is the Dard Hunter collection on the history of papermaking (1,200 books and 2,800 special documents). The library currently receives 750-800 journals. The overall collection now includes: 17,350 bound periodical volumes; 16,000 books and pamphlets; 110,000 patents (U.S., Canadian, British, French, German, USSR); 3,900 technical translations; 101 reels of 16 mm film-periodicals; 1,200 other microforms (government documents, fiche, 35 mm. dissertations); 1,500 3-ring binders containing vertical file material (equals 100 drawers). The Library collection and the Abstract Bulletin cover pertinent literature from all over the world.

Publications

Abstract Bulletin of the Institute of Paper Chemistry (including microforms);
Keyword Supplement to the Abstract Bulletin;
Words-in-Title-Topical-Index to the Abstract Bulletin ("WITTI");
Bibliographic Series; translations; books.

Information Services

All services available to the public, including the Library; however, the Library does not lend any of its holdings except doctoral dissertations.
Photocopying service, translation service. Literature search service, manual and computerized, current awareness and retrospective, on subjects pertaining to pulp, paper, and related areas of science and technology. Computer data bases include the Abstract Bulletin of the Institute of Paper Chemistry and Chemical Abstracts Condensates. Price quotations for manual searches are provided without obligation.
Magnetic tapes of the Abstract Bulletin, Keyword Supplement and Bibliographic Series. Computer searching programs for IPC tapes or company internal files and for reformatting Chemical Abstracts Condensates tapes.

9. Chemical Abstracts Service

Division of the American Chemical Society
The Ohio State University
Columbus, Ohio 43210

Contact Point

Marketing Department
614-421-6940

Collection Strength

The collection covers chemistry and chemical engineering. Contains 15,000 books; 12,000 periodicals; and 4,000-6,000 reports. All have been monitored for coverage in Chemical Abstracts.

Publications

Chemical Abstracts: weekly issues contain bibliographic citations for and abstracts of publications whose content is, at least in part, related to chemistry or chemical engineering.

CA Volume Indexes: published separately after each semi-annual Volume of CA has been completed. While the Volume Numerical Patent Index and Patent Concordance are essentially cumulations of the corresponding issue patent indexes and concordances, the other volume indexes are completely new creations derived usually from a searching examination of the original documents, not the abstracts.

CA Section Groupings: the total abstract content of CA is available in five individually packaged subject groupings, each grouping consisting of a set of CA sections related by subject matter:

Biochemistry Sections (CABS)
Organic Chemistry Sections (CAOS)
Macromolecular Sections (CAMS)
Applied Chemistry and Chemical Engineering Section (CAAS)
Physical and Analytical Chemistry Sections (CAPS).

Collective Indexes to Chemical Abstracts: comprehensive indexes which combine the content of individual CA Volume Indexes.

Registry Handbook - Number Section: 13,000 page listing of the nearly two million unique chemical substances registered in the Chemical Abstracts Service (CAS) Chemical Registry System from 1965 through 1971.

Chemical Abstracts Service Source Index: (CASSI), 1907-1974 Cumulative is a compilation of bibliographic data and library holding information for the full range of scientific and technical primary source literature relevant to the chemical sciences. Includes approximately 40,000 entries.

Chemical Titles: a biweekly current-awareness service which reports the titles of those papers of chemical interest which have been recently published in selected journals.

Chemical Industry Notes: a weekly compilation of brief and informative extracts of articles published in key trade and industry periodicals.

Information Services

Information services available through CAS-licensed Information Centers. These use CAS computer-readable data files to fulfill the information needs of individuals or organizations within the scientific and technical community. Generally provide a range of services based on computer-readable data files available from CAS and from other information processors. A listing of CAS-licensed Information Centers is available on request, by writing to the Chemical Abstracts Service, Marketing Department.

10. Institute of Transportation and Traffic Engineering Library

University of California
412 McLaughlin Hall
Berkeley, Calif. 94720

Contact Point

Beverley Hickok, Head Librarian
Ann Patterson, Public Services Librarian
415-642-3604

Collection Strength

Subjects covered include highway engineering (including roads and freeways); mass transit; rapid transit; aviation; regional transportation studies; urban planning and transportation; railroads; traffic safety and crash research; environmental impacts; pedestrians; bikeways; transportation economics; technology transfer and technology forecasting. Collection contains approximately 150 entries on transportation in developing areas, 175 on developing areas in general, 100 on roads in developing areas and another 100 under the names of particular developing areas.
Collection contains 11,626 books; 686 periodical titles; 1033 annuals titles; 2740 proceedings; 29,174 reports in a series; 12,276 catalogued pamphlets; 4594 reprints; 1059 microfiches; 656 maps. All major articles from journals are analyzed.

Publications

Selected List of Recent Acquisitions (quarterly); Library References (bibliographies on specific subjects compiled as time permits); the Institute also publishes Staff Papers, Graduate Reports, Dissertation Series, and Special Reports.

Information Services

The Library exists primarily for the Institute's staff and for the University of California Berkeley graduate Transportation Engineering Division faculty and graduate students. The Library is open to the public for library use only. Some materials circulate to other libraries in accord with the ALA interlibrary loan rules. Specific questions received by phone or mail are answered. When time permits, a copy of cards from the subject catalog is made resulting in a bibliography on a very specific topic of interest.

Natural Resources Planning and Management

1. National Agricultural Library

U.S. Department of Agriculture
Beltsville, Maryland 20705

Contact Point

Mr. Charles Bebee
Chief, Reference Division
301-344-3836

Collection Strength

1.5 million volumes, including books and bound journals, current periodicals, reports, maps, charts, posters, and microfilms. The literature is in more than 50 languages and includes material from over 100 foreign countries.

Publications

Special bibliographies published in "Library List" series. Dissemination of agricultural information is provided in NAL-oriented publications:
The Bibliography of Agriculture is published by and available from MacMillan Information (Riverside, N.J.);
The Dictionary Catalog of the National Agricultural Library, 1862-1965;
the quinquennial National Agricultural Library Catalog, 1966-1970;
and the monthly National Agricultural Catalog 1971 - are published by and available from Rowman and Littlefield, Inc., Totowa, N.J.
Further current awareness is provided by our CAIN (CAtaloging-INdexing) data tapes and CAIN on-line search service.

Information Services

Answers reference questions and makes brief literature searches without charge. Photocopying is done at cost. The buildings are open to the public for on-site reference, and material may be borrowed through interlibrary loan.

2. Library

U.S. Geological Survey
National Center - MAIL STOP 950
12201 Sunrise Valley Drive
Reston, Virginia 22092

Contact Point

Mr. George H. Goodwin, Jr.
Chief Librarian
703-860-6619

Collection Strength

The holdings of the Main Library consist of books (almost 475,000), journals (about 8,000 serial publications are received regularly), data, and topographic and geologic maps (about 250,000). The Branch Libraries have less extensive holdings. All four libraries are supplied with copies of all major Geological Survey publications. In addition, the Denver Library has a field record and photographic collection for geological expeditions from 1869 to the present, and a special collection of well logs. The Library contains over 1,000 reports on developing countries worldwide.

Publications

Dictionary Catalogue of the United States Geological Survey Library, 25 vols., 1st suppl. 11 vols. (Published by G.K. Hall, Boston, Mass.) 2nd suppl. in progress.

Information Services

The Main Library and its branches are open to the public for reference. The Denver Library's collection of well logs is available only to Survey and Atomic Energy Commission personnel, and its collection of field records is available to persons outside the Survey only by permission of the Director. A publications exchange program is maintained with approximately 800 foreign institutions and 200 in the United States. Interlibrary loan services are provided to other Government agencies, educational institutions, and industry. Materials are made available for duplication through commercial firms. Survey still photographs may be purchased from the Denver Library.

3. Water Resources Division

U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, Virginia 22092

Contact Point

Water Information Group
703-860-6867

Collection Strength

About 25,000 books, reports, journals, maps, and charts pertaining to water resources; about 250 million items of water data, 2,000 data compilations, 100,000 water-well core samples, 50 analog models of surface-or ground-water occurences, 40 magnetic tapes of data on streamflow and quality of water, and 100 computer programs on water resources studies. A small percentage of this material relates to developing countries.

Publications

Of the established series of publications of the Geological Survey, information on water resources appears principally in Professional Papers, Bulletins, Water-Supply Papers, Circulars, Hydrologic Atlases, Journal of Research of the U.S. Geological Survey and Techniques of Water Resources Investigations of the United States Geological Survey. Nontechnical reports include primers on water, ground water, and water quality.

Information Services

Requests for general information in the field of water resources are answered by the Water Resources Division.

4. Engineer Agency for Resources Inventories

4701 Sangamore Road, N.W.
Washington, D.C. 20016

Contact Point

Chief, Reference Branch
202-227-2519

Collection Strength

4,000 books and technical reports; 300 files of data; 800 special subject maps; 100 journal titles. Some of this material relates to developing countries, principally those in Southeast Asia and Latin America.

Publications

Selected accessions (weekly, available on written request); resource atlases (not generally available for public distribution); special studies, reports, papers, and manuals (some available on request); bibliographies.

Information Services

Answers inquiries; provides advisory, reference, and limited bibliographic services; makes limited interlibrary loans.

5. Geology Library

223 National History Building
University of Illinois at Urbana-Champaign
Urbana, Illinois 61801

Contact Point

Mrs. Harriet W. Smith
Librarian
217-333-1266

Collection Strength

64,000 volumes; 2,300 serials, including Government reports; 44,500 geological maps with worldwide coverage; 245 films; 8 vertical file drawers of reprints, translations and pamphlets; extensive collection of old and rare books on geology (available for on-site use). Most foreign languages are represented, with emphasis on Russian, German, French, Spanish and Italian sources. About an equal number of volumes of geological literature are housed in the stacks of the main library because of lack of space.

Publications

Monthly acquisition list.

Information Services

Provides library services to University students and staff members, and to others by special permission; makes interlibrary loans; provides duplication services for fee.

6. Library

Water Resources Research Institute
205 Samford Hall
Auburn University
Auburn, Alabama 36830

Contact Point

Librarian
205-826-5075

Collection Strength

Water resources planning, publications and research; water reuse; public and private water supply; rural, recreational, municipal, industrial and agricultural water use; waterways; wells; detergents in water; hydraulics; hydrogeology; fluid mechanics; pesticides in water; control, abatement, sources, and effects of water pollution; municipal and industrial wastes; waste treatment; waste water; water analysis; water chemistry; water conservation; water cycle; water microbiology; water purification; water quality; water reclamation; soil-water relations; salt water intrusion; reservoirs; rivers and streams; water runoff; irrigation; lakes; limnology; fish diseases; eutrophication; aquifers; aquatic biology; aquatic ecology; aqueous solutions; ground water. Books, maps, project records; reports; journals, newsletters, bibliographies, pamphlets.

Publications

Bulletin (research reports), pamphlets and annual report.

Information Services

Answers inquiries; makes referrals; permits on-site use of collection.

7. Environmental Science Information Center

National Oceanic and Atmospheric Administration
3300 Whitehaven Street, N.W.
Room 186
Washington, D.C. 20235

Contact Point

Director
202-343-7636

Collection Strength

Oceanography; hydrography; seismology; geomagnetism; aeronomy; hydrology; climatology; atmospheric sciences; cartography; solar physics; geodesy; marine fisheries; marine biology.

Publications

NOAA Professional Papers; NOAA Technical Reports; NOAA Technical Memoranda; Science and Engineering News from NOAA; Library Accessions list; NOAA Publications Announcement; books, abstracts, and indexes, bibliographies, research-in-progress reports.

Information Services

Responds to requests for scientific and technical information produced by NOAA and arranges for exchanges of such information with other Government agencies; provides reference, literature-searching, abstracting and indexing; disseminates publications. Services are free except where a major analysis effort or costly publication is involved.

8. Library

Forest Products Laboratory
U.S. Forest Service
North Walnut Street
P.O. Box 5130
Madison, Wisconsin 53705

Contact Point

Reference Librarian
608-257-2211 (ext. 289)

Collection Strength

Forest products utilization; wood quality; solid wood products; wood engineering; wood chemistry; wood fiber products. Books, journals, reports, photos, films. Collection includes reports on forestry development in most developing countries.

Publications

Technical and survey reports, handbooks, monographs, bibliographies, literature reviews, bulletins.

Information Services

Answers inquiries; provides consulting, reference, and document services; permits on-site use of literature collection.

9. Editor

Agricultural Experiment Station
Purdue University
Lafayette, Indiana 47907

Contact Point

Editor
317-749-2416

Collection Strength

Agricultural and home economics research, including agricultural engineering, agronomy (crops, soils), animal and poultry sciences, botany and plant pathology, entomology, forestry and conservation, horticulture, veterinary science, biochemistry, and intermediary metabolism. Holdings include reports on development in many developing countries.

Publications

Research Bulletin (15 a year); Station Bulletin (50-60 a year); Purdue Agriculture Reports (quarterly); journal articles (350 a year).

Information Services

Provides reference services.

10. F. Franklin Moon Library

State University of New York
College of Environmental Science and Forestry
Syracuse, New York 13210

Contact Point

Librarian
315-473-8696

Collection Strength

Cellulose and wood chemistry; paper science and engineering; polymer chemistry; biochemistry; wood anatomy and ultrastructure; forests and forestry; botany and plant pathology; zoology including entomology; dissertations and theses; U.N. Food and Agriculture Organization reports. Reports of the Office of International Forestry, including reports on Philippines and Venezuela.

Publications

Library Notes, accession lists, and bibliographies.

Information Services

Answers inquiries.

11. Library

University of Washington
Seattle, Washington 98105

Contact Point

Librarian
206-543-1760

Collection Strength

Science and technology, including astronomy, atmospheric sciences, chemistry, engineering, physics, mathematics, fisheries, oceanography, forest resources, medicine, dentistry, nursing, pharmacy, zoology, geology, botany and biology. 1,690,000 volumes of monographs and serials; numerous Government publications (federal, state, international, foreign); over 352,000 research reports; 37,000 reels of microfilm; 548,000 microfiches, microprints and microcards. Forestry reports on several developing countries including Chile and Costa Rica.

Publications

Library Leaflet series (irregular); Library Guide series (irregular); Washington Library Newsletter (bi-weekly); acquisition lists.

Information Services

Provides reference services, primarily to students and faculty; makes interlibrary loans; provides duplication services for fee; permits on-site reference.

12. Document Library

Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

Contact Point

Librarian
617-548-1400 (ext. 269)

Collection Strength

All aspects of oceanography, including instrumentation, marine meteorology, geology and geophysics. 15,000 technical reports.

Publications

None.

Information Services

Answers telephone inquiries; lends unclassified technical reports to the scientific and educational community; permits on-site use of collection by persons introduced by staff members or affiliated with the Federal Government; makes interlibrary loans.

13. Library

Department of Fisheries and Marine Technology
University of Rhode Island
35 Steamboat Avenue
Wickford, Rhode Island 02852

Contact Point

Librarian
401-295-8893

Collection Strength

Technical aspects of commercial fisheries, including aquaculture, fishing vessels, nets and gear, engineering, fish handling and processing, and navigation and vessel operations; commercial fisheries extension activities. Small reference collection of books, periodicals, and reports, including some concerning developing countries.

Publications

Commercial fisheries newsletter (bimonthly); technical reports, extension bulletins.

Information Services

Answers inquiries; provides consulting services, usually on contract basis.

14. Technical Library

Tennessee Valley Authority
National Fertilizer Development Center
Muscle Shoals, Al. 35660

Contact Point

Shirley Nichols, Librarian
205-383-4631 (722)

Collection Strength

Subjects: agriculture; chemistry; chemical engineering; fertilizers; economics; environmental sciences; and developing countries.
Holdings: books and bound periodicals - 20,700; subscriptions - 890 periodicals and other serials; vertical file - 306 drawers (pamphlets, documents, translations); microfilm reels - 1,500.

Publications

TVA Fertilizer Publications which include Chemical Engineering Reports, Chemical Engineering Bulletins, Miscellaneous Publications, Agricultural Development Reports, International Studies, Reprints from Technical and Scientific Journals, and Proceedings Published by Others.
Bibliography Listing.

Information Services

Interlibrary loans, photocopying, bibliographies, reference service, and the library is open to the public.

Medical Technology

1. Rehabilitation International

122 East 23rd Street
New York, New York 10010

Contact Point

Mr. Norman Acton
Secretary General
212-674-4340

Collection Strength

Rehabilitation International maintains a small reference library at its international Secretariat, and a more extensive collection in cooperation with the Rehabilitation International Information Service, Stiftung Rehabilitation Heidelberg, Federal Republic of Germany (see below).

Publications

International Rehabilitation REVIEW, published quarterly in English with French and Spanish language summaries. A Japanese language edition is also published quarterly. Subscription: US $5.00 per year.

Rehabilitation Guidelines for the Future, in the Medical, Vocational, Education and Social Fields.

The Development of Rehabilitation Services in Relation to Available Resources (Killarney, Ireland) - Report of a Meeting of Experts held on September 21-24, 1969.

Information Services

Rehabilitation International maintains an Information Service in the facilities of the Stiftung Rehabilitation Heidelberg. The Stiftung Rehabilitation Heidelberg is a complex of vocational, medical and research facilities for physically handicapped children and adults in the Federal Republic of Germany. It collects, catalogues and stores rehabilitation related publications from all parts of the world for reference use. Selected publications are also stocked for distribution to interested individuals and international organizations.

Information Service materials are available in English, French and German. A limited number of publications are available in Spanish.

Plans are being developed for computer storage and retrieval of abstracts from selected publications and periodicals for future dissemination in subject bibliographies.

B. BIBLIOGRAPHY

The following bibliography contains reports, papers, and publications selected to cover a broad range of topics relevant to science, technology and development. It also contains additional material in three areas of emphasis: industrialization, small-scale industries, and the transfer of technology to developing countries. The bibliography is not exhaustive, but in conjunction with the List of Sources detailed in Section A of this Report, it is intended to give the reader an overview of the information resources available.

To facilitate the use of the bibliography, it has been organized as follows. Entries are arranged alphabetically by author within each subject category. When the author is an institution or organization, the entry is catalogued with the organization name as author. Each item has been assigned a reference number which consists of a Roman numeral and an Arabic number. The Roman numeral indicates the subject section and the Arabic numeral indicates the position of the entry within the section. In some cases the major subject category is broken down into sub-categories. The reference numbers reflect this sub-division in the use of lower-case letters between the Roman and Arabic numerals to indicate the sub-categories.

Many entries could have been legitimately placed under several subject headings, but each item is listed only once to conserve space. In order to ensure that the reader is aware of all possible sources in this bibliography, a cross-referencing system has been used. At the end of most subject categories will be found a list of reference numbers which refer to entries in other subject groups. These entries also pertain to the category immediately preceeding the list. In addition, the entries are indexed at the end of the bibliography by author, sponsoring organization, and by country (if applicable).

For further ease of use and conservation of space, standard acronyms for organization names have been used throughout the bibliography. A list of these acronyms appears on the next page.

To aid the user in obtaining copies of references in the bibliography, reference numbers of the various organizations have been included when available. These will be found at the end of the citation in brackets.. The numbers starting with PB, PN, or P refer to the National Technical Information Service, Springfield, Virginia. The bracketed numbers following UN system references are the UN document numbers, not the sales numbers.

ACRONYMS USED IN THE BIBLIOGRAPHY

ACAST - Advisory Committee on the Application of Science and Technology to Development (UN)

AID - Agency for International Development (US)

CENTO - Central Treaty Organization

ECAFE - Economic Commission for Asia and the Far East (UN)

ECLA - Economic Commission for Latin America (UN)

HUD - Department of Housing and Urban Development (US)

ILO - International Labor Organization

KIST - Korean Institute ofrScience and Technology

MIT - Massachusetts Institute of Technology

NAS/NAE - National Academy of Sciences/National Academy of Engineering

NBS - National Bureau of Standards

OAS - Organization of American States

OECD - Organization for Economic Cooperation and Development

ODC - Overseas Development Council

OST - Office of Science and Technology

SPRU - Science Policy Research Unit (University of Sussex, England)

SEADAG - Southeast Asia Development Advisory Group (Asia Society)

UN - United Nations

UNCTAD - UN Conference on Trade and Development

UNDP - UN Development Program

UNESCO - UN Educational, Scientific and Cultural Organization

UNIDO - UN Industrial Development Organization

UNITAR - UN Institute for Training and Research

UNRISD - UN Research Institute for Social Development

WAITRO - World Association of Industrial and Technological Research Organizations (UNIDO)

WHO - World Health Organization

I. BIBLIOGRAPHIES

I-1 Academy for Educational Development - Sources of Information and Assistance on Educational Technology for Development: A Directory. Information Center on Instructional Technology, Academy for Educational Development, Washington, D.C.

I-2 AID - Application of Modern Technologies to International Development. AID, National Technical Information Service, Springfield, Va. Quarterly series of publications.

I-3 Baranson, Jack - Technology for Underdeveloped Areas: An Annotated Bibliography. International Series of Monographs in Library and Information Science, Vol. 6, Pergamon Press, N.Y., 1967. 81 pp.

I-4 East African Academy - Science and Technology in East Africa. Nairobi, Kenya.

I-5 OECD - Transfer of Technology and Appropriate Techniques: A Bibliography. Development Center, OECD, Paris, 1972. 86 pp.

I-6 Slate, Floyd O.; Mary Ann Acton; & Thandiwe Chinamora - Low-Cost Housing for Developing Countries: An Annotated Bibliography 1950-1972. Program on Policies for Science and Technology in Developing Nations, Cornell University, Ithaca, N.Y., 1974. 214 pp.

I-7 WAITRO - Handbook of Technical Information Sources. WAITRO, Vancouver, 1974.

II. OVER-ALL VIEWS OF SCIENCE, TECHNOLOGY AND DEVELOPMENT

II-1 Adelman, I.; & C. T. Morris - "Factor Analysis of the Interrelationship between Social and Political Variables and Per Capita Gross National Product," Quarterly Journal of Economics, Vol. LXXIX (Nov. 1965).

II-2 _____. - "Performance Criteria for Evaluating Economic Development Potential," Quarterly Journal of Economics, Vol. LXXII (May 1968).

II-3 _____. "Comments and Reply," Quarterly Journal of Economics, Vol. LXXXIV (Nov. 1970).

II-4 AID - Technology and Economics in International Development: Report of a Seminar, May 23, 1972. Office of Science and Technology, Office of Policy Development and Analysis, AID, Washington, D.C., May 1972. 84 pp. TA/OST 72-9.

II-5 Balassa, B. (ed) - The Structure of Protection in Developing Countries. Johns Hopkins Press, Baltimore, 1971.

II-6 Baranson, Jack - "The Role of Science and Technology in Advanced Development of Newly Industrializing States," Socio-Economic Planning Sciences, Vol. 3 (1969).

II-7 Barnett, R.; & R. Muller - "A Reporter at Large," New Yorker (Dec. 2, 1974), pp. 53-128.

II-8 Blackett, P.M.S. - Reflexions of Science and Technology in Developing Countries. Gandhi Memorial Lectures No. 1, East African Publishing House, Nairobi, Jan. 1969.

II-9 _____. - "The Ever-Widening Gap," Science and Culture, Vol. 33 (1967), pp. 303-311.

II-10 _____. - "Science and Technology in an Unequal World," Science and Culture, Vol. 34 (1968), pp. 16-24.

II-11 Chenery, Hollis B.; & L. Taylor - "Development Patterns: Among Countries and Over Time," Review of Economics and Statistics, Vol. 50 (Nov. 1965), pp. 391-416.

II-12 Chenery, Hollis B.; Montek S. Ahluwalia; C.L.G. Bell; John H. Duloy; & Richard Jolly - Redistribution with Growth. Oxford University Press, N.Y., 1974.

II-13 Clarke, Robin - The Great Experiment; Science and Technology in the Second United Nations Development Decade. UN, Centre for Economic and Social Information, N.Y., 1971. 54 pp.

II-14 Cooper, Charles - "Science, Technology and Production in the Underdeveloped Countries: An Introduction," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 1-18.

II-15 _____. (ed.) - Science, Technology and Development: The Political Economy of Technical Advance in Underdeveloped Countries. Frank Cass & Co., London, 1973. 199 pp.

II-16 Foster, George M. - Traditional Societies and Technological Change. 2nd Edition, Harper and Row Publishers, N.Y., 1973. 286 pp.

II-17 Goulet, Denis - "Exporting Technology to the Third World: A Guide to Terms and Issues," Perspectives on Development and Social Change, II, No. 1 (1973), 14 pp. Center for the Study of Development and Social Change, Cambridge, Mass.

II-18 _____; & Michael Hudson - The Myth of Aid. Orbis Books, 1971.

II-19 Hetzler, Stanley A. - Technological Growth and Social Change: Achieving Modernization. Frederick A. Praeger, N.Y., 1969. 302 pp.

II-20 _____. - Applied Measures for Promoting Technological Growth. Routledge and Kegan Paul, Boston, 1973. 337 pp.

II-21 Hodges, Wayne; & Matthew A. Kelly (eds.) - Technological Change and Human Development: An International Conference. Jerusalem, April 14-18, 1969. Published by the New York State School of Industrial and Labor Relations, Cornell University, Ithaca, N.Y., for the American Foundation on Automation and Employment, 1970. 388 pp.

II-22 Kilby, Peter - "Farm and Factory: A Comparison of the Skill Requirements for the Transfer of Technology," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 63-69.

II-23 _____. (ed.) - Entrepreneurship and Economic Development. N.Y., 1972.

II-24 Merhav, M. - Technological Dependence, Monopoly and Growth. Pergamon Press, Oxford, N.Y., 1969.

II-25 Mitcham, Carl; & Robert Mackey (eds.) - Philosophy and Technology: Readings in the Philosophical Problems of Technology. Free Press, N.Y., 1972. 399 pp.

II-26 Morehouse, Ward - "The Role of Science and Technology in Development: A Terra Incognita of Public Policy," International Development Review, Vol. XII, No. 1 (March 1970), pp. 19-21.

II-27 Nader, Claire; & A. B. Zahlan (eds.) - Science and Technology in Developing Countries. Cambridge University Press, N.Y., 1969.

II-28 National Academy of Sciences - Summary Report of the Workshop on the Contribution of Science and Technology to Development, Santiago, Chile, Jan. 1971. Co-sponsored with the National Commission for Scientific and Technological Research of Chile and the Office of the Foreign Secretary, National Academy of Sciences. 28 pp.

II-29 Nelson, R. R.; M. J. Peck; & E. K. Kalachek - Technology, Economic Growth and Public Policy. The Brookings Institution, Washington, D.C., 1967.

II-30 OECD - "Soft" Technology: What it Means and Does for the Developing Countries. Collective Authorship, Development Centre of the OECD, Paris.

II-31 Papanek, G. I. - "Factor Analysis and Growth," Quarterly Journal of Economics, Vol. LXXXV (Aug. 1971).

II-32 Reuber, G. L.; et al. - Private Foreign Investment in Development. Oxford University Press, London, 1974. 371 pp.

II-33 Rivkin, S. - Technology Unbound. Pergamon Press, 1973?.

II-34 Rolfe, W. E. - The Multinational Corporation. Foreign Policy Association, N.Y., 1970.

II-35 Rosenburg, Nathan (ed.) - The Economics of Technological Change. Penguin Books, Harmondsworth, 1971.

II-36 Sagasti, Francisco R. - "Underdevelopment, Science and Technology: The Point of View of the Underdeveloped Countries," Science Studies, Vol. 3 (1973), pp. 47-59.

II-37 SPRU - Science, Technology and Development. University of Sussex for ACAST.

II-38 SPRU - Science, Technology and Development: The Role of the UNDP. University of Sussex for UNDP.

II-39 Singer, H. W. - "The Foreign Company as an Exporter of Technology," Institute of Development Studies Bulletin, Vol. 3, No. 1 (Oct. 1970), pp. 8-15.

II-40 Skolnikoff, Eugene B. - The International Imperatives of Technology: Technological Development and the International Political System. Institute of International Studies, Research Series No. 16, University of California, Berkeley, 1972. 194 pp.

II-41 _____. - Science, Technology and International Affairs. Background paper for the Ad Hoc Committee on Science and Technology of the US National Academy of Sciences, MIT, Cambridge, Mass., June 1974.

II-42 Solo, Robert A.; & Everett M. Rogers (eds.) - Inducing Technological Change for Economic Growth and Development. Michigan State University Press, 1972. 238 pp.

II-43 Spaey, Jacques - Science for Development: An Essay on the Origin and Organization of National Science Policies. UNESCO, Paris, 1971.

II-44 Strassman, Wolfgang P. - Technological Change and Economic Development. Cornell University Press, Ithaca, N.Y., 1972.

II-45 The Sussex Group - Science, Technology and Underdevelopment: The Case for Reform. University of Sussex, 1970. 42 pp.

II-46 Thrall, Charles A.; & Jerold M. Starr (eds.) - Technology, Power and Social Change. Lexington Books, 1972. 170 pp.

II-47 UN, Economic and Social Council - Committee on Science and Technology for Development, Second Session, ACAST, Eleventh Report of the Advisory Committee on the Application of Science and Technology to Development. N.Y., 1974. 24 pp. [E/C.8/24 E/AC.52/4].

II-48 UN, Department of Economic and Social Affairs - Multinational Corporations in World Development. Praeger Publishers, N.Y., 1974. 200 pp.

II-49 UN, Economic and Social Council - Committee on Science and Technology for Development, Report on the Second Session, 11-29 March, 1974. Supplement No. 3, N.Y., 1974. 49 pp. [E/5473 E/c.8/27].

II-50 UN, ECAFE - Science, and Technology as a Tool for Industry and Natural Resources Development in Developing ECAFE Countries. Committee on Industry and Natural Resources, ECAFE, Bangkok, 1972, 24th Session, 8-14 Feb., 1972. 7 pp. [E/CN.11/16NR/L.130 Add. 1].

II-51 UN, ACAST - Science and Technology for Development. N.Y., 1970. 47 pp.

II-52 UN, Economic and Social Council - Third Report of the Advisory Committee on the Application of Science and Technology to Development. Supplement No. 12, Annex 1, N.Y., 1966. 8 pp.

II-53 UNESCO - International Aspects of Technological Innovation. Proceedings of a Science Policy Symposium, Paris, 7-9 Sept., 1970. Science Policy Studies and Documents Series No. 26, UNESCO, Paris, 1970. 92 pp.

II-54 _____.- The Role of Science and Technology in Economic Development. Science Policy Studies and Documents No. 18, UNESCO, Paris, 1970. 216 pp.

II-55 _____.- Science and Technology in Asian Development. UNESCO, Paris, 1970.

II-56 _____.- "Soft Technology" A Proposal for Alternatives under Conditions of Crisis. Prepared for the Youth Division, Education Sector, UNESCO, Paris, Oct. 1971. 56 pp.

II-57 Vaitsos, Constantine V. - "Bargaining and the Distribution of Returns in the Purchase of Technology by Developing Countries," Institute of Development Studies Bulletin, Vol. 3, No. 1 (Oct. 1970), pp. 16-23.

II-58 Wilber, Charles K. (ed.) - The Political Economy of Development and Underdevelopment. Random House, N.Y., 1973.

II-59 Williams, Bruce R. (ed.) - Science and Technology in Economic Growth. Proceedings of a Conference Held by the International Economic Association at St. Anton, Austria. John Wiley and Sons (Halstead Press), N.Y., 1973. 446 pp.

II-60 Anon. - "Science in Underdeveloped Countries: World Plan of Action for the Application of Science and Technology to Development," Minerva, Vol. 9 (1971), pp. 101-121.

III. POLICIES AND PLANNING FOR SCIENCE AND TECHNOLOGY

III-1 AID - AID Policy on Selected Aspects of Science and Technology. Washington, D.C., 107 pp. DRAFT TAB: 5/3/72

III-2 AID - Policies and Programs in Selected Areas of Science and Technology. OST Staff Report, AID, Washington, D.C., March 1973. 31 pp. TA/OST 73-18. [PB 218 816/7].

III-3 AID - Workshop on Science Planning and Policy in Thailand, Bangkok, Thailand, July 3-6, 1972. Final Report. Sponsored in Part by the NAS, printed by the National Research Council of Thailand, July 1972. 48 pp. OST, AID. [PB 224 441].

III-4 Cooper, Charles - "Science Policy and Technological Change in Underdeveloped Economies," paper presented to the Ford Foundation Seminar on Technology and Employment, New Delhi, March 21-24, 1973.

III-5 Dedijier, Steven - Science Policy Gaps: Their Relations to the Technological Gaps. Research Policy Program, University of Lund, Lund, Sweden, 1968.

III-6 Esman, M. J.; & John Montgomery - Science Policy Making for Development - Reflections on Five Case Studies. Sponsored by the Office of Science and Technology, AID and The American Institutes of Research, June 1974. 33 pp.

III-7 Halty-Carrere, Maximo - A Wider Scope for Science Policy in the Seventies: A Policy for Technical Progress. Division of Planning and Studies, Department of Scientific Affairs, OAS, Washington, D.C., 1971. 11 pp.

III-8 Herrera, Amilcar - "Social Determinants of Science in Latin America: Explicit Science Policy and Implicit Science Policy," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 19-37.

III-9 Ilchman, W. F.; & Norman T. Uphoff - "Beyond the Economics of Labor Intensive Development: Politics and Administration," Public Policy, Vol. XXII, No. 2 (Spring 1974), pp. 189-218.

III-10 ILO - Employment and Income Policies for Iran. Geneva, 1973. 100 pp.

III-11 Jaquier, Nicholas - "Toward a Technology Policy: The Japanese Model," Science Policy News, Vol. 13, No. 1 (July 1972), OECD, Paris.

III-12 Lewis, S. R. - Pakistan Industrialization and Trade Policies. Oxford University Press (for OECD), London, 1970.

III-13 Montgomery, John D. - Technology and Civic Life: Making and Implementing Development Decisions. The MIT Press, Cambridge, Mass., 1974. 239 pp.

III-14 Nagi, Moshafa H. - "Policies on Science and Technology in Developing Countries," Science Policy Reviews, Vol. 5, No. 4 (1972), pp. 27-35.

III-15 Sagasti, Francisco R. - A Systems Approach to Science and Technology Policy-Making and Planning. Studies on Scientific and Technological Development No. 7, Regional Scientific and Technological Development Program, Department of Scientific Affairs, General Secretariat of the OAS, Washington, D.C., 1972. 90 pp.

III-16 _____ - "Towards a Methodology for Planning Science and Technology in Underdeveloped Countries," Ph.D. Thesis, University of Pennsylvania, 1972. 464 pp.

III-17 Shils, Edward - Criteria for Scientific Development: Public Policy and National Goals. MIT Press, Cambridge, Mass.

III-18 Strasser, Gabor - Science and Technology Policies - Yesterday, Today and Tomorrow. National Bureau of Standards, Washington, D.C., 1974.

III-19 UNIDO - Planning for Advanced Skills and Technologies. UNIDO Industrial Planning and Programming Series No. 3, N.Y., 1968. 225 pp. [ID/SER.E/3].

III-20 _____.- Incentive Policies for Industrial Development. Report and Proceedings of the Interregional Seminar held in Vienna, 10-21 March, 1969. N.Y., 1970. 68 pp. [ID/58 Vol. 1 (ID/WG.30/16)].

III-21 Anon. - Priority Research Needs on Technology-Related Transnational and Global Policy Problems. Report on a Workshop held on March 7-8, 1973 at Brookline, Mass. under the Joint Sponsorship of MIT and NSF, Center for International Studies, MIT, July 1973.

For further references on this topic, see items:

II-5, II-13, II-28, II-29, II-43, II-54, II-59, IV-10, IV-23, VII-3, VII-30, VII-42, VIII-6, VIII-10, VIII-18, VIII-24, VIII-47, VIII-50, VIII-56, VIII-57, VIII-61, IX-6, X-16, X-19, X-24, X-28, XII-3, XIII-5, XVI-20, XVI-24, XVI-25, XVII-1, XVII-4, XVII-5, XVII-8

IV. INFRASTRUCTURE, RESEARCH AND PROMOTION

IV-1 Alhaique, Claudio - Creation of an Industrial Promotion Service. Problems of Development, OECD, Paris, 1972. 68 pp.

IV-2 Aurora, G. S.; with M.V.K. Sivamohan - Administration of Science and Technology in India - A Trend Report. Administrative Staff College of India, Bella Vista, Hyderabad, n.d. 184 pp.

IV-3 Bard, B.J.A. - The Role of the Research Organization in the Acquisition and Adaptation of Foreign Technology. UNIDO, Expert Group Meeting on Licensing Practices, Vienna, 1972. 18 pp. [ID/WG.131/7].

IV-4 Chowdhury, P. N. - Economics of Research and Development. People's Publishing House, New Delhi, 1973. 163 pp.

IV-5 Hunter, Guy - The Transfer of Institutions. Overseas Development Institute, 1968. 20 pp.
ALSO: in African Affairs, Vol. 67, No. 266 (Jan. 1968).

IV-6 Kanapathy, V. - "A Case for the Establishment of a Council for Scientific and Industrial Research in Malaysia," Malaysian Management Review, Vol. 4, No. 3 (Dec. 1969), pp. 68-73.

IV-7 National Academy of Sciences - Office of the Foreign Secretary - Research Management and Technical Entrepreneurship: A U.S. Role in Improving Skills in Developing Countries. A Report of an Ad Hoc Advisory Panel of the Board on Science and Technology for International Development, 1973. 40 pp. [PB 225 129/6AS].

IV-8 _____ - Industrial Research as a Factor in Economic Development. NAS, Washington, D.C., 1968.

IV-9 _____ - Workshop on the Role of the Council for Scientific and Industrial Research in Determining Science Policy and Research Priorities, Accra, Ghana, March 18-31, 1973. Final Report. Published by the Council for Scientific and Industrial Research of Ghana, May 1973. 65 pp. [PB 223 310/4].

IV-10 National Academy of Sciences - Workshop on Industrial and Technological Research, Djakarta, Indonesia. Volume I. Prepared in cooperation with the Indonesian Institute of Science, Washington, D.C., 1971. 38 pp. [PB 217 118/9].

IV-11 _____ - Workshop on Industrial and Technological Research, Djakarta, Indonesia. Volume II. 1971. 69 pp. [PB 218 724/3].

IV-12 _____ - Workshop on Industrial and Technological Research, Djakarta, Indonesia. Volume III. By Jane Wilkie and Everett Lee. 1971. 120 pp. [PB 222 457/4].

IV-13 Nayudamma, Y. - "Promoting the Industrial Application of Research in an Underdeveloped Country," Minerva, Vol. 5 (1967), pp. 323-339.

IV-14 Norris, Keith - The Economics of Research and Technology. Allen and Unwin, London, 1973. 172 pp.

IV-15 O'Donnell, G.; & J. F. Sabato - Science Institutions in Developing Countries: Their Forms of Insertion in the Social Context as a Factor in their Success or Failure - A Research Project Description. Centro de Investigaciones en Administracion Publica, Buenos Aires, Dec. 1972.

IV-16 Old, Bruce S. - "Thoughts on Institutions and Industrialization," Paper for Cornell University Symposium on U.S. Bilateral Aid Strategies and Programs in Selected Areas of Science and Technology, May 7-8, 1973. 17 pp.

IV-17 OECD - Management of Research and Development. Papers presented at a Seminar by the Scientific and Technical Research Council of Turkey, Istanbul, 4-8 May, 1970. OECD, Aug. 1972. 332 pp.

IV-18 UN, Economic and Social Council - Industrial Development - Science and Technology in Relation to Industrial Development: Factors Affecting the Effectiveness of Existing Industrial Research Organizations in Developing Countries. Report of the ACAST, 51st Session, March 1971. 18 pp. [E/4960].

IV-19 UNIDO - Industrial Research Institutes: Guidelines for Evaluation. N.Y., 1971. 81 pp. [ID/70].

IV-20 Urquidi, Victor L. - "Technology, Planning and Latin American Development," International Development Review, Vol. 13 (1971), pp. 8-12.

IV-21 Utterback, James M. - The Role of Applied Research Institutes in the Transfer of Technology to Latin America. Sponsored by the International Business Research Institute, Graduate School of Business, Indiana University, 1973. 36 pp.

IV-22 WAITRO - Priority of Needs of Industrial Research Institutes in Developing Countries. WAITRO, Vancouver, 1972.

IV-23 Work, H. K. - "A Suggested Research Policy for a Developing Country," Industrial Research and Development News, Vol. 5, No. 4 (1970), pp. 2-5. UNIDO, Vienna. [ID/SER.B/14].

For further references on this topic, see items:

VII-40, VIII-6, X-12, X-13, X-28, XVe-20

V. CHANNELS FOR TECHNOLOGICAL INFORMATION FLOW

a. Information Systems (International)

Va-1 Gabay, Mayer - Industrial Property and Technological Information Services in the Context of Regional Economic Integration in Latin America. Report on an Evaluation Mission to Latin America. Regional Scientific and Technological Development Program, Department of Scientific Affairs, General Secretariat of the OAS, Washington, D.C., 1971. 63 pp.

Va-2 Loman, Daisy - Bilateral Institutional Links in Science and Technology. UNESCO, Science Policy Studies and Documents No. 13, Paris, 1969. 98 pp.

Va-3 Morse, Richard - Responding to Technical Information Needs in Developing Countries. An Evaluative Review of the VITA International Inquiry Service. Office for Private Overseas Programs, AID, Washington, D.C., 1972. [PB 210 512].

Va-4 NAS/NAE - Meeting the Challenge of Industrialization: A Feasibility Study for an International Industrialization Institute. NAS/NAE Reports, Washington, D.C., 1973. 133 pp.

Va-5 _____. - Scientific and Technical Information for Developing Countries. A Report of an Ad Hoc Advisory Panel of the Board on Science and Technology for International Development, Office of the Foreign Secretary, NAS, Washington, D.C., April 1972. 80 pp. [PB 210 107].

Va-6 Trussell, P. C. - International Cooperation for Industrial and Technological Research and Development. Seminar for the Stimulation of Industrial Research in Developing Countries, Singapore, 1972. UNIDO, Vienna, 1972. 6 pp. [ID/WG.132/4].

Va-7 UNESCO - UNISIST - Study Report on the Feasibility of a World Science Information System by the United Nations Educational, Scientific and Cultural Organization and the International Council of Scientific Unions. Paris, 1971. 161 pp.

Va-8 UNIDO - Co-ordination of Activities of the United Nations System in the Field of Industrial Development: Second Analytical Report. Industrial Development Board, UNIDO, Vienna, 1972.

Va-9 UNIDO - Institutions for the Transfer of Technology. Seminar on Industrial Information (for English Speaking African Countries), Addis Ababa, 1972. UNIDO, Vienna, 1972. 19 pp. [ID/WG.119/5].

For further references on this topic, see items:

VIII-1, VIII-2, VIII-10, XVg-1

b. Patents and Licensing

Vb-1 El-Halfawy, M. - Some Practical Considerations for the Evaluation and Negotiation of Licensing Agreements. Expert Group Meeting on Licensing Practices, Vienna, 1972. UNIDO, Vienna, 1972. 23 pp.

Vb-2 Singh, Rana K.D.N. - Guidelines for the Acquisition of Foreign Technology in Developing Countries, with Special Reference to Technology License Agreements. UNIDO, N.Y., 1973. 53 pp. [ID/98].

Vb-3 _____. - Institutional Regulation of Acquisition of Technology in Developing Countries. Expert Group Meeting on Licensing Practices, Vienna, 1972. UNIDO, Vienna, 1972. 14 pp. [ID/WG.131/8].

Vb-4 UNCTAD - The Role of the Patent System in the Transfer of Technology to the Developing Countries. Geneva, 1974. [TD/B/AC.11/19 & Add.1].

Vb-5 _____, Trade and Development Board - Transfer of Technology, including Know-How and Patents: Elements of a Programme of Work for UNCTAD. Study by the Secretariat of UNCTAD, 1970. 37 pp. [TD/B/310].

Vb-6 _____ - The Transfer of Technology to Developing Countries with Special Reference to Licensing and Know-How Agreements. University of Sussex Report prepared for the Second Seminar of UNCTAD, 1974. [TD/28/Supp.1 and Corr. 1].

Vb-7 UNIDO - Changing Attitudes and Perspectives in Developing Countries Regarding Technology Licensing. Paper presented to the UNIDO/LES Symposium on Problems and Prospects of Industrial Licensing in Developing Countries held in N.Y., 2-5 May, 1972. [ID/WG.130/3].

Vb-8 _____ - Licensing of Technology into Developing Countries. Meeting on the Transfer of Technology to Developing Countries through Subcontracting and Licensing Agreements, Paris, 1972. Vienna, 1972.

Vb-9 _____ - Specification and Remuneration of Foreign Know-How - Guidelines for Licensees in Developing Countries. UNIDO/LES Symposium on Problems and Prospects of Industrial Licensing in Developing Countries, N.Y., 1972. Vienna, 1972. 28 pp. [ID/WG.130/1].

Vb-10 _____ - Considerations on Technological Requirements in Developing Countries with Observations on Technology Licensing Agreements. UNIDO/LES Symposium on Problems and Prospects of Industrial Licensing in Developing Countries, N.Y., 1972. Vienna, 1972. 16 pp. [ID/WG.130/2]. (by Constantine Vaitsos).

Vb-11 _____ - Changing Attitudes and Perspectives in Developing Countries Regarding Technology Licensing. UNIDO/LES Symposium on Problems and Prospects of Industrial Licensing in Developing Countries, N.Y., 1972. Vienna, 1972. 18 pp. [ID/WG.130/3].

Vb-12 Vaitsos, Constantine - "Patents Revisited: Their Function in Developing Countries," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 71-97.

Vb-13 _____ - "Strategic Choices in the Commercialization of Technology: The Point of View of Developing Countries," International Social Science Journal, Vol. XXV, No. 3 (1973), pp. 370-386.

For further references on this topic, see items:

II-17, VIII-18, XVg-1

VI. INDUSTRIALIZATION

VI-1 Carnoy, Martin - Industrialization in a Latin American Common Market. The Brookings Institution, Washington, D.C., 1972. 267 pp.

VI-2 Cukor, Gyorgy - The Role of Import Substitution and Export Development in the Industrialization of Developing Countries. Studies on Developing Countries No. 38, Center for Afro-Asian Research of the Hungarian Academy of Sciences, Budapest, 1971. 16 pp.

VI-3 _____. - Strategies for Industrialization in Developing Countries. St. Martin's Press, N.Y., 1974. 265 pp.

VI-4 Dore, Ronald - "Japanese Industrialization and the Developing Countries: Model, Warning or Source of Healthy Doubts," Occasional Papers, No. 8, Institute of Southeast Asia Studies, Singapore, Aug. 1971.

VI-5 ILO - Social Problems Arising Out of the Industrialization of Developing Countries. Building, Civil Engineering, and Public Works Committee, Eighth Session, Third Item on the Agenda, Geneva, 1968.

VI-6 Kaynor, Richard S.; & Konrad F. Schultz - Industrial Development: A Practical Handbook for Planning and Implementing Development Programs. Praeger Special Studies in International Economics and Development, N.Y., 1973. 186 pp.

VI-7 Rosen, M. E. - "Some Observations on the Efficiency of Industrialization," Pakistan Development Review, (Winter 1970), pp. 357-79.

VI-8 Sharpston, Michael - International Sub-Contracting. World Bank, May 1974. 47 pp. Mimeo.

VI-9 UNIDO - Industrialization in Countries at the Earliest Stages of Development. [ID/WG.109/3].

VI-10 Watanabe, Tsunehiko - "The Process of Industrialization: A Dynamic Simulation," Osaka Economic Papers, Vol. XXI (2), No. 38 (March 1973), pp. 1-43.

VI-11 World Bank Group - Industry: Sector Working Paper. World Bank, Washington, D.C., 1972. 59 pp.

VI-12 Zaludova, A. H. - The Role of Quality and Quantity Control in Industrial Development. UNIDO, Vienna, 1972. 14 pp. [ID/WG.100/12].

For further references on this topic, see items:

II-20, II-50, III-12, X-11, X-13, X-21, X-24, X-26, XII-9, XIV-3, XVI-4, XVI-28, XVI-40.

VII. APPROPRIATE TECHNOLOGY/INTERMEDIATE TECHNOLOGY/ EMPLOYMENT

VII-1 AID - Appropriate Technologies for International Development - Preliminary Survey of Research Activities. Office of Science and Technology, AID, Washington, D.C., 1972. 60 pp. TA/OST 72-11. [PB 212 288].

VII-2 Aggarwal, Partap C. - "Green Revolution and Employment in Ludhiana, Punjab, India," in E. O. Edwards (ed.), Employment in Developing Countries, Columbia University Press, N.Y., 1974, pp. 373-382.

VII-3 Barnett, Vincent M. - "Implementation of Policies for Fuller Employment in Less Developed Countries," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 247-269.

VII-4 Bhalla, A. S. - "Investment Allocation and Technological Choice: A Case of Cotton Spinning Techniques," Economic Journal, Vol. 74 (1964), pp. 611-622.

VII-5 Bhattasali, B. N. - Transfer of Technology among the Developing Nations. Asian Productivity Organization, Economic and Industrial Development Productivity, Tokyo, 1972.

VII-6 Boon, G. K. - Economic Choice of Human and Physical Factors in Production. North Holland Publications Co., Amsterdam, 1964. 332 pp.

VII-7 Bruton, Henry J. - "Economic Development and Labor Use: A Review," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 49-67.

VII-8 Cockroft, John - Technology for Developing Nations. Overseas Development Institute, 1966. 23 pp.

VII-9 Eckaus, R. S. - "The Factor Proportion Problem in Under-Developed Areas," American Economic Review, Vol. 45 (Sept. 1955), pp. 539-69.

VII-10 _____. - "Making the Optimal Choice of Technology," in Gerald M. Meier (ed.), Leading Issues in Economic Development: Studies in International Poverty, 2nd Edition, Oxford University Press, N.Y., 1970, pp. 345-348.

VII-11 Edwards, Edgar O. (ed.) - Employment in Developing Nations. Columbia University Press, N.Y., 1974. 428 pp.

VII-12 _____. - "Employment in Developing Countries," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 1-44.

VII-13 German Foundation for Developing Countries - Development and Dissemination of Appropriate Technologies in Rural Areas. International Workshop, July 17-28, 1972, Kumasi, Ghana. Seminar Centre for Economic and Social Development, German Foundation for Developing Countries, 1972. 211 pp.

VII-14 Gotsch, Carl - "Economics, Institutions and Employment Generation in Rural Areas," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 133-160.

VII-15 ILO - Appropriate Technology, Employment and Income Growth. Prepared by the ILO at the invitation of UN ACAST, 15th Session, Geneva, 15-26 Nov., 1971. 34 pp.

VII-16 _____. - Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya. Geneva, 1972.

VII-17 _____. - The Work of the Intermediate Technology Development Group in Africa. By E. F. Schumacher. Geneva. 20 pp.
ALSO: International Labor Review, Vol. 106, No. 1 (July 1972).

VII-18 Ishikawa, Shigeru - "A Note on the Choice of Technology in China," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 161-185.

VII-19 Jackson, Sarah - A Consideration of Appropriate Technologies for Developing Countries. Background Paper prepared for the NAS and ODC, March 1971. 42 pp.

VII-20 _____. - Economically Appropriate Technologies for Developing Countries. Overseas Development Council, Washington, D.C., 1972. 38 pp.

VII-21 Jurado, Gonzalo M. - The Choice of Industry and Employment in the Philippines: An Exploratory Discussion. Paper presented at the SEADAG Seminar on Employment Creation Strategies for Southeast Asian Economies, Atlanta, Dec. 1972. 22 pp.

VII-22 Khan, Amir U. - "Appropriate Technologies: Do We Transfer, Adapt, or Develop?," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 223-233.

VII-23 Marsden, Keith - "Progressive Technologies for Developing Countries," International Labor Review, Vol. 101, No. 5 (May 1970), pp. 475-502.
ALSO: W. Galenson (ed.), Essays on Employment, ILO, Geneva, 1971, pp. 113-140.

VII-24 Pickett, James; D.J.C. Forsyth; & N. S. McBain - "The Choice of Technology, Economic Efficiency and Employment in Developing Countries," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 209-221.

VII-25 Ranis, Gustav - Technology Choice, Employment and Growth, Economic Growth Center, Center Discussion Paper No. 97, Yale University, New Haven, Conn., 1970. 23 pp.

VII-26 Reid, Peter - Intermediate Technology: The Third World and Western Technology. Reprint from Ampleforth Journal, Vol. LXXVIII (Autumn 1973).

VII-27 Sachs, Ignacy - "Selection of Techniques: Problems and Policies for Latin America," Economic Bulletin for Latin America, Vol. XV, No. 1 (1970), pp. 1-34.

VII-28 Sadii, Mahammad - "Application of Technology and its Employment Effects: The Experience in Indonesia," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 363-372.

VII-29 Schumacher, E. F. - Small is Beautiful: Economics as if People Mattered. Harper and Row, N.Y., 1973.

VII-30 Sen, A. K. - Choice of Techniques: An Aspect of the Theory of Planned Economic Development. 3rd Edition, Oxford University Press, Blackwell, 1968. 113 pp.

VII-31 Solow, R. M. - "Technical Change and the Aggregate Production Function," Review of Economics and Statistics, Vol. 39 (Aug. 1957), pp. 312-320.

VII-32 Stewart, Frances - "Choice of Technique in Developing Countries," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 99-121.

VII-33 _____. - Technology and Employment in Less Developed Countries. Prepared for the Ford Foundation Seminar on Technology and Employment, March 21-24, 1973. 119 pp.

VII-34 _____. - "Technology and Employment in LDCs," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 83-129.

VII-35 _____; & P. Streeten - "Conflicts Between Output and Employment Objectives in Developing Countries," Oxford Economic Papers, Vol. 23 (July 1971), pp. 145-168.

VII-36 Strassman, W. P. - "Construction Productivity and Employment in Developing Countries," International Labor Review, Vol. 101, No. 5 (May 1970), pp. 503-518.

VII-37 Tinbergen, J. - "The Optimum Choice of Technology," Pakistan Economic Journal, Vol. VII, No. 2 (Dec. 1957), pp. 1-7.

VII-38 UN, Economic and Social Council - Industrial Development - Science and Technology in Relation to Industrial Development - Technologies Appropriate for Industrial Development - Report of the ACAST, 51st Session, March 1971. 37 pp.

VII-39 UN - Technologies Appropriate for Industry in the Developing Countries. ACAST. [STD/5/RPCA/IND/1].

VII-40 UN, Department of Economic and Social Affairs - Appropriate Technology and Research for Industrial Development. Report of ACAST on Two Aspects of Industrial Growth, N.Y., 1972. 51 pp. [ST/ECA/152].

VII-41 UNIDO - Appropriate Choice of Industrial Technologies: Guidelines for an Action Programme (India). Seminar on Appropriate Technologies, New Delhi, 1973. Vienna 1973.

VII-42 Usui, M. - Choice and Adaptation of Technology in Developing Countries: An Overview of Major Policy Issues; Review of the Discussions held at the Study Sessions organized by the OECD Development Centre, Paris, 7-9 Nov. 1972. OECD, Paris, 1974. 240 pp.

VII-43 _____; & M. Brown - Industrial Development Consultancy and Choice of Technology. OECD Development Centre, OECD, Paris.

VII-44 Utterback, James M. - "The Process of Innovation: A Review of Some Recent Findings," in George W. Wilson (ed.), Technological Development and Economic Growth, Business Paper 18, School of Business, Division of Research, Indiana University, 1971, pp. 139-160.

VII-45 Vaitsos, Constantine V. - "Employment and Foreign Direct Investments in Developing Countries: Some Notes and Figures," Paper presented to the Ford Foundation Seminar on Technology and Employment, New Delhi, March 21-24, 1973.

VII-46 _____. - "Employment Effects of Foreign Direct Investments in Developing Countries," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 331-350.

VII-47 Weed, Stephen J. - Some Economic Considerations for Developing-Country Technologies. Bureau for Program and Policy Coordination, Office of Policy Development and Analysis, AID, Washington, D.C., Dec. 1971. 17 pp.

VII-48 Wells, Louis T. - "Economic Man and Engineering Man: Choice of Technology in a Low Wage Country," SEADAG of the Asia Society, Paper 73-1, Nov. 1972. 27 pp.

VII-49 Winston, Gordon C. - "Factor Substitution, ex ante and ex post," Journal of Development Economics, Vol. 1, No. 2 (Sept. 1974), pp. 145-163.

VII-50 Anon. - Appropriate Technology for Chemical Industries in Developing Economies: A Report Prepared in Connection with Foreign Area Fellowship Program Summer Research Training Project Held at National Autonomous University of Mexico, Mexico City, Mexico, July-August, 1972. 226 pp.

For further references on this topic, see items:

I-5, II-14, II-52, III-10, III-19, IV-3, Va-4, Vb-1, VIII-31, VIII-51, X-3, XI-3, XI-4, XII-7, XII-14, XII-15, XVg-2, XVI-10, XVI-11

VIII. TECHNOLOGY TRANSFER

VIII-1 Allen, T. J.; & S. Cooney - "Institutional Roles in Technology Transfer," Sloan School of Management Working Paper #651-73, MIT, Cambridge, Mass., March 1973.

VIII-2 _____. - "Institutional Roles in Technology Transfer: A Diagnosis of the Situation in One Small Country," Sloan School of Management Working Paper #661-73, MIT, Cambridge, Mass., June 1973.

VIII-3 Allen, T. J.; & V. Reilly - "Getting the World Around - Report of a Pilot Study on Technology Transfer to Irish Industry," Sloan School of Management Working Paper #650-73, MIT, Cambridge, Mass., March 1973.

VIII-4 Altekar, V. A. - The Role of Research and Development Work and Pilot Plants in the Creation and Transfer of Metallurgical Know-How in Developing Countries and Regions. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. UNIDO, Vienna, 1971. 37 pp. [ID/WG.110/10].

VIII-5 Balasubramanyam, V. N. - International Transfer of Technology to India. Praeger Special Studies, N.Y., 1973. 158 pp.

VIII-6 Bar-Zakay, Samuel N. - Policymaking and Technology Transfer: The Need for National Thinking Laboratories. Rand Corporation, Santa Monica, California, 1970.

VIII-7 _____. - Technology Transfer Model. Rand Corporation, Santa Monica, California, 1970. 30 pp. [P-4509].

VIII-8 Bykov, A. N.; A. V. Letenko; & M. P. Strepetova - Soviet Experience in Transfer of Technology to Industrially Less Developed Countries. UNITAR Research Report No. 15, N.Y., 1973. 188 pp.

VIII-9 Chudson, Walter A. - The International Transfer of Commercial Technology to Developing Countries. UNITAR Research Report No. 13, 1971. 61 pp.

VIII-10 Cooper, Charles; with Francisco Sercovitch - The Channels and Mechanisms for the Transfer of Technology from Developed to Developing Countries. Trade and Development Board, Intergovernmental Group on the Transfer of Technology, Organizational Meeting, Geneva, June 1971. UN. 81 pp. [TD/B/AC.11/5].

VIII-11 _____. - "Mechanics for the Transfer of Technology from Advanced to Underdeveloped Countries," UNCTAD paper, Geneva, April 1971. 81 pp. [TR/B/AC].

VIII-12 _____. - "The Transfer of Industrial Technology to the Underdeveloped Countries," Institute of Development Studies Bulletin, Vol. 3, No. 1 (Oct. 1970), pp. 3-7.

VIII-13 _____; & Amertya K. Sen - Guidelines for the Study of Transfer of Technology to Developing Countries: A Study by the UNCTAD Secretariat. UNCTAD, Geneva, 1972.

VIII-14 Crespin, G. - Transfer and Adaptation of Technology in Small and Medium Firms. OECD Development Centre, OECD, Paris.

VIII-15 Denver Research Institute - Project for the Analysis of Technology Transfer (PATT). University of Denver, Denver, Colorado, 1970. 55 pp. [N71-38779].

VIII-16 Giedroyc, M.J.H. - Managing the Transfer of Know-How. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. UNIDO, Vienna, 1971. 12 pp. [ID/WG.110/4].

VIII-17 Gruber, William H.; & Donald G. Marquis (eds.) - Factors in the Transfer of Technology. MIT Press, Cambridge, Mass. 1969. 289 pp. From the MIT Conference on the Human Factor in the Transfer of Technology, Endicott House, May 18-20, 1966.

VIII-18 Hawthorne, Edward P. - The Transfer of Technology. OECD, Paris, 1971. 148 pp.

VIII-19 Kaplinsky, Raphael - "Monitoring and Controlling the Inflow of Technology - Nigeria, India and Japan," Institute of Development Studies, June 1973. 28 pp.

VIII-20 _____. - "The Transfer of Technology - Its Implications for Underdeveloped Countries," Annual Conference of the British Sociological Association, 1972. Mimeo.

VIII-21 KIST - AID/NASA Pilot Project for Technology Transfer to a Developing Nation. Republic of Korea and the Illinois Institute of Technology Research Institute, 1972. 191 pp. [PB 222 557/1].

VIII-22 _____. - Proceedings of the International Seminar on Dissemination of Technology, November 20-22, 1972. KIST, 1973. 159 pp. [PB 222 954].

VIII-23 Lachmann, Karl E. - "The Transfer of Technology to Developing Nations," Proceedings of the American Society of International Law, 1966.

VIII-24 Laporte, T. R. - Technologies Transfer: A Context for Policy Considerations. University of California, Berkeley, 1969.

VIII-25 Lipton, Michael - "The International Diffusion of Technology," in Dudley Sears and Leonard Joy (eds.), Development in a Divided World, Penguin, Harmondsworth, 1971. 368 pp.

VIII-26 Meyer, K. Rudy - The Transfer of Technology to Developing Countries - The Pulp and Paper Industry. UNITAR Research Report No. 19, N.Y., 1974. 45 pp.

VIII-27 Mintzes, Joseph - Impact on United States Economy of Transfers of Technology (Pilot Program in Korea). OST, AID, Washington, D.C., 1973. 28 pp. TA/OST 73-14.

VIII-28 Moavenzadeh, Fred - Transfer and Adaptation of Technology in the Construction Industry. MIT, Cambridge, Mass. 51 pp.

VIII-29 Montgomery, John - Behavioral Dimensions of Technological Change. Development Administration Panel Seminar, Kuala Lumpur, Malaysia, 1971. SEADAG Papers on Problems of Development in Southeast Asia, 72-2. 34 pp.

VIII-30 Morgan, Robert P. - "Transfer of Technology," in Douglas A. Chalmers (ed.), Changing Latin America: New Interpretations of Its Politics and Society, Proceedings of the Academy of Political Science, Vol. 30 (Aug. 1972), pp. 141-152.

VIII-31 Nadkarni, R. M.; C. L. Kusik; & C. Bliss - The Transfer of Extractive Metallurgical Technology to Developing Countries. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. UNIDO, Vienna, 1971. [ID/WG.110/2].

VIII-32 National Council of Applied Economic Research (India) - Foreign Technology and Investment. New Delhi, 1971.

VIII-33 Nelson, Richard R. - Less Developed Countries, Technology Transfer and Adaptation, and the Role of the National Science Community. Center Discussion Paper No. 104, Economic Growth Center, Yale University, New Haven, Conn., Jan. 1971. 30 pp.

VIII-34 OAS - An Experiment in International Transfer of Technology: A Pilot Project for Latin America. Pilot Project on Transfer of Technology, Regional Scientific and Technological Development Program, Department of Scientific Affairs, OAS General Secretariat, Washington, D.C., April 1973. 23 pp.

VIII-35 _____. - General Description of the Organization of American States' Pilot Project for Transfer of Technology. Regional Scientific and Technological Development Program, Department of Scientific Affairs, General Secretariat of the OAS, Washington, D.C., 1972. 14 pp.

VIII-36 _____. - Note on the OAS Program on Transfer of Technology. Division of Planning and Studies, Department of Scientific Affairs, OAS, Washington, D.C., 1971. 16 pp.

VIII-37 Ozawa, Terutomo - "Japan Exports Technology to Asian LDC's," Columbia Journal of World Business (Jan.-Feb. 1971).

VIII-38 _____. - Transfer of Technology from Japan to Developing Countries. UNITAR Research Report No. 7, 1971. 50 pp.

VIII-39 Pack, H.; & M. Todaro - "Technological Transfer, Labor Absorption and Economic Development," Oxford Economic Papers, Vol. 21 (Nov. 1969), pp. 395-404.

VIII-40 Quinn, James B. - "Technology Transfer by Multinational Companies," Harvard Business Review, Vol. 47, No. 6 (Nov.-Dec. 1969), pp. 147-161.

VIII-41 Rubenstein, Albert H.; Theodore W. Schlie; & Alok K. Chakrabarti - Research Priorities on Technology Transfer to Developing Countries. Report of two NU/NSF Workshops held at Northwestern University May 1973 and Washington, D.C., Sept. 1973. The Technological Institute, Northwestern University, Evanston, Ill. Jan. 1974.

VIII-42 Schwartz, W. H. - Technical Consultancy Services and Development of Metallurgical Know-How for the Design and Operation of Non-Ferrous Metallurgical Plants in Developing Countries and Regions. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. UNIDO, Vienna, 1971. 31 pp. [ID/WG.110/3].

VIII-43 SPRU - Commercialization of Technology, University of Sussex, IDRC.

VIII-44 _____. - Machinery Suppliers as a Source of Technology. OAS.

VIII-45 _____. - Mechanisms for Technology Transfer. University of Sussex for ACAST/UNCTAD.

VIII-46 Spencer, Daniel L.; & Alexander Woroniak - The Transfer of Technology to Developing Countries. Praeger Publishers, N.Y., 1967.

VIII-47 Stobaugh, Robert B. - The International Transfer of Technology in the Establishment of the Petrochemical Industry in Developing Countries. UNITAR Research Project Report No. 12, 1971. 67 pp.

VIII-48 Stone, C. A.; & S. J. Uccetta - Technology Transfer to a Developing Nation: A Report of the AID/NASA Pilot Project in Technology Transfer to the Republic of Korea. Illinois Institute of Technology Research Institute, Chicago, Ill., 1973. 80 pp. [PB 222 584/5].

VIII-49 Sunkel, Osvaldo - "Underdevelopment, The Transfer of Science and Technology and the Latin American University," Human Relations, Vol. 24, No. 1 (Feb. 1971), pp. 1-18.

VIII-50 UN, Department of Economic and Social Affairs - Transfer of Operative Technology at the Enterprise Level. N.Y., 1972. 42 pp. [ST/ECA/151].

VIII-51 UN, ECLA - "Transfer of Technology and its Relation to Trade Policy and Export Promotion in Latin America," Economic Bulletin for Latin America, Vol. 14, No. 1 (1969), pp. 47-71.

VIII-52 UNCTAD - Fiscal and Financial Matters: Transfer of Operative Technology at the Enterprise Level - Report of the Secretary-General. Geneva, 1974. [TD/B/AC. 11/23].

VIII-53 _____. - Major Issues Arising from the Transfer of Technology to Developing Countries. Geneva, 1974. [TD/B/AC.11/10/Rev.1].

VIII-54 _____. - The Possibility and Feasibility of an International Code of Conduct in the Field of Transfer of Technology. Geneva, 1974. [TD/B/AC.11/22].

VIII-55 _____. - Scope of Activities of Bodies Within and Outside the United Nations System in the Field of Transfer of Technology: The UNESCO and the Economic Commission for Africa. June 1971. 11 pp. [TD/B/AC. 11/2/Add.1].

VIII-56 _____. - Transfer of Technology: Report by the UNCTAD Secretariat. 1972. 27 pp. [TD/106].

VIII-57 _____. - Transfer of Technology: Policies Relating to Technology of the Countries of the Andean Pact: Their Foundations. A Study by the Junta del Acuerdo de Cartagena for UNCTAD. 1972. 36 pp. [TD/107].

VIII-58 UNIDO - Challenges to the Creation and Transfer of Know-How. [ID/WG.110/5].

VIII-59 _____. - Managing the Transfer Know-How. [ID/WG. 110/4].

VIII-60 _____. - Creation and Transfer of Metallurgical Know-How. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. Vienna, 1971. 15 pp. [ID/WG.110/16].

VIII-61 Usui, M.; & D. Froment - Technology Transfer Policies in the Pharmaceutical Industry. OECD Development Centre, OECD, Paris.

VIII-62 Wortzel, Lawrence H. - Technology Transfer in the Pharmaceutical Industry. UNITAR Research Report No. 14, 1971. 53 pp.

For further references on this topic, see items:

I-5, II-7, II-52, II-53, IV-3, IV-11, IV-21, Va-5, Vb-2, Vb-3, XIII-8, XVI-34, XVI-35, XVI-36, XVI-37

IX. TECHNICAL ASSISTANCE AND COOPERATION

IX-1 AID - Guide for Team Leaders in Technical Assistance Projects. Technical Assistance Methodology Division, Bureau for Technical Assistance, AID, Washington, D.C., Jan. 1973. 98 pp.

IX-2 _____. - RANN (Research Applied to National Needs) Program: Potential Benefits to Developing Countries. Office of Science and Technology, AID, Washington, D.C., 1973. 48 pp. TA/OST 73-16. [PB 214 862/5].

IX-3 _____. - Technical Cooperation with Iran - A Case Study of Opportunities and Policy Implications for the United States. Special Technical Services, AID, Rosslyn, Va., 1972 ?

IX-4 Bhagwati, J. N. - "The Tying of Aid," in Proceedings of the UNCTAD, Second Session, Vol. IV, Problems and Policies of Financing, 1974.

IX-5 Desai, P. - The Bokaro Steel Plant: A Study of Soviet Economic Assistance. North Holland Publications Co., Amsterdam, 1972. 108 pp.

IX-6 Domergue, Maurice - Technical Assistance: Theory, Practice and Policies. Praeger Publishers, N.Y., 1968. 196 pp.

IX-7 Johnson, Brian; Hans Singer; & Bruce Mackay - "New Forms of International Cooperation for Technical Innovation," prepared for the UNITAR/ODA Seminar "The Search for New Methods of Technical Cooperation," April 1972. Mimeo.

IX-8 OECD - Technical Assistance and the Needs of Developing Countries. Paris, 1968. 49 pp.

IX-9 Poats, Rutherford M. - Technology for Developing Nations: New Directions for U.S. Technical Assistance. The Brookings Institution, Washington, D.C., 1972. 246 pp.

IX-10 Segre, V. D. - The High Road and the Low: A Study in Legitimacy, Authority and Technical Aid. Allen Lane, London, 1974. 176 pp.

IX-11 Selwyn, Percy - "Conflict in Technical Assistance," Institute of Development Studies Bulletin, Vol. 3, No. 4 (Aug. 1971), pp. 44-47.

IX-12 UNIDO - Problems of Technical Co-operation in the Least Developed Countries. [ID/WG.109/9].

IX-13 Wood, Richard H. - U.S. Universities: Their Role in AID-Financed Technical Assistance Overseas. A Report from Education and World Affairs, N.Y., 1968. 96 pp.

For further references on this topic, see items:

VIII-42, X-19, X-24, X-26, XI-7

X. SMALL SCALE INDUSTRY

X-1 Aburatani, Seifu - Public and Semi-Public Financing of Small-Scale Industry in Asia. Seminar on Financing of Small-Scale Industry in Asia and the Far East, New Delhi, India, 5-10 April, 1971. UNIDO. 53 pp. [ID/WG.92/2].

X-2 Aluko, S. A. - Small-Scale Industries, Western State of Nigeria, Ile-Ife, Nigeria, Industrial Research Unit, Department of Economics, University of Ife, Nigeria, 1972. 380 pp.

X-3 Azami, Behnouz A. - Appropriate Technology, Including Research and Prototype Development (Small-Scale Industry). Meeting on Promotion of Small Industries in the RCD Countries, Tehran, 1971. UNIDO, Vienna, 1971. 5 pp. [ID/WG.93/7].

X-4 Berry, Albert - The Relevance and Prospects of Small-Scale Industry in Colombia. Economic Growth Center, Center Discussion Paper No. 142, Yale University, New Haven, Conn., 1972. 139 pp.

X-5 Buchele, Robert B. - The Development of Small Industrial Entrepreneurs as a Tool of Economic Growth. Working Paper of the East-West Technology and Development Institute, East-West Center, Honolulu, 1971. 114 pp.

X-6 German Foundation for Developing Countries - Settlement and Promotion of Small and Medium Industry: International Seminar, Seminar Report, Seminar Centre for Economic and Social Development, 1971. 421 pp.

X-7 Hawbaker, George D. - Developing Small Industries: A Case Study of AID Assistance to Nigeria, 1962-1971. AID, Washington, D.C., 1972. 81 pp.

X-8 India (Government) - Report - 1969-1970 - Small-Scale Industries. Development Commissioner, Small-Scale Industries, Ministry of Industrial Development, Internal Trade and Company Affairs, New Delhi. 232 pp.

X-9 _____. - Small Scale Industries. Development Commissioner, Small Scale Industries, Ministry of Industrial Development and Internal Trade, Government of India, New Delhi, 1971. 842 pp.

X-10 Joklik, O. F. - Economic Small Size Phthalic Anhdride Plant and a Small Plant for the Manufacture of Catalysts. Expert Group Meeting on Transfer of Know-How in Production and Use of Catalysts, Bucharest, 1972. UNIDO, Vienna, 1972. 118 pp. [ID/WG.123/15].

X-11 Lange, Jan H. - Small Industry - A First Step Towards Industrialization. Southern African Technology Development Group (pty) Ltd., Braamfontein, TVL, South Africa.

X-12 Malgavkar, P. D. - "SIET Promotes Small Industry in India," Industrial Research and Development News, Vol. IV, No. 4 (Dec. 1969), pp. 13-16. UNIDO. [ID/SER.B/10].

X-13 Nanjappa, K. L.; & L. Cresson - Philippines. Final Report. Master Plan for a Comprehensive and Integrated Development Programme of Assistance to Small and Medium Industries. UNIDO/ILO, Vienna, 1972. 314 pp.

X-14 National Council of Applied Economic Research (India) - Study of Selected Small Industrial Units. New Delhi, 1972. 75 pp.

X-15 OECD - Promotion of Small and Medium-Sized Firms in Developing Countries through Collective Actions. Inter-regional Symposium on the Exchange of Experience, OECD Development Centre, Paris, 25-29 Sept., 1967. Published Aug. 1969. 374 pp.

X-16 Staley, Eugene; & Richard Morse - Modern Small Industry for Developing Countries. McGraw Hill Book Co., N.Y., 1965. 435 pp.

X-17 Thomas, D. W. - Small-Scale Manufacture of Burned Building Brick. VITA, Schenectady, N.Y., n.d. 15 pp.

X-18 Todd, John E. - Size of Firm and Efficiency in Colombian Manufacturing. Center for Development Economics, Williams College, Williamstown, Mass., Oct. 1971. 58 pp. [PB 216 267].

X-19 UN - Technical Cooperation for the Development of Small-Scale Industries. Department of Economic and Social Affairs, Centre for Industrial Development, N.Y., 1966, 42 pp. [ST/CID/16].

X-20 UNIDO - Bicycles: A Case Study of Indian Experience. Small-Scale Manufacturing Studies No. 1, 1969. 87 pp. [ID/SER K/1].

X-21 _____. - Industrialization of Developing Countries: Problems and Prospects; Small-Scale Industry. Based on the Proceedings of the International Symposium on Industrial Development, Athens, Nov. - Dec. 1967. UNIDO Monographs on Industrial Development No. 11, 1969. 46 pp.

X-22 _____. - Labour Intensity in Small-Scale Industry. [ID/WG.109/11].

X-23 _____. - Opportunities for Small Factories in Countries at Early Stages of Development. [ID/WG.109/10].

X-24 _____. - Report of the Expert Group on Industrialization in Countries at Early Stages of Development with Special Reference to Small-Scale Industry. Expert Group Meeting on Industrialization in Countries at Early Stages of Development with Special Reference to Small-Scale Industry, Vienna, 1971. 46 pp. [ID/WG.109/17].

X-25 _____. - Report of the Seminar on Financing of Small-Scale Industry in Asia and the Far East. New Delhi, 1971. Vienna, 1971. 43 pp. [ID/WG.92/4 and ID/WG.92/4/Corr. 1].

X-26 _____. - Small-Scale Industry in Latin America. Vienna, 1969. 323 pp.

X-27 _____. - Technical Services for Small-Scale Industries. Report of the Interregional Symposium on Technical Services and Facilities for Small-Scale Industries, Denmark, June-July 1967. Vienna, 1970. 257 pp. [ID/20].

X-28 Anon. - Small-Scale Industries: A Guide and Reference Hand Book. Compiled by a Board of Editors, Nabhi Publications, New Delhi, 1971. 161 pp.

For further references on this topic, see items:

VII-29, VIII-14, XVb-3, XVd-5, XVI-7

XI. EDUCATION AND MANPOWER

XI-1 Brown, John A.; & Charles T. Stewart - Report on Survey of Brazil Concerning the Need for Industrial Development Training. The George Washington University, Washington, D.C., Oct. 1964. 70 pp. [PB 206 903].

XI-2 Davis, Russell G. - Scientific, Engineering and Technical Education in Mexico. Education and World Affairs, Occasional Report No. 3, 1967. 39 pp.

XI-3 East-West Center - Conference on Relevance in Engineering Education for Asian Needs with Workshop on Nature and Concept of Intermediate Technology, 23-26 February, 1972. Technology and Development Institute, East-West Center, Honolulu. 11 pp.

XI-4 Edwards, Edgar O.; & Michael P. Todaro - "Education and Employment in Developing Nations," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 313-330.

XI-5 Gillon, Philip and Hadassah (eds.) - Science and Education in Developing States. Proceedings of the Fifth Rehovot Conference, Praeger Special Studies, N.Y., 1971. 302 pp.

XI-6 OAS - Education and Science Development: Three Years of Inter-American Cooperation. General Secretariat of the OAS, Washington, D.C., 1972. 52 pp.

XI-7 Thompson, Kenneth W. - Higher Education for National Development: One Model for Technical Assistance. International Council for Educational Development, Occasional Paper No. 5, N.Y., 1972. 24 pp.

XI-8 UNCTAD - The Reverse Transfer of Technology: Economic Effects of the Outflow of Trained Personnel from Developing Countries ("Braindrain"). Geneva, 1974. [TD/B/AC.11/25].

For further references on this topic, see items:

I-1, II-13, II-22, III-19, IV-4, IV-7, IV-10, IX-9, X-24, XVI-24, XVI-26

XII. AGRICULTURE

XII-1 Bell, Clive - "The Acquisition of Agricultural Technology: Its Determinants and Effects," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 123-159.

XII-2 Biggs, Stephen - "Agricultural Technology and the Traditional Social System," paper for the Conference on Appropriate Technology in Economic Development, Edinburgh, Aug. 1973, Institute of Development Studies, Sussex, Discussion Paper 21. 40 pp.

XII-3 Dalrymple, Dana G. - Technological Change in Agriculture - Effects and Implications for the Developing Nations. Foreign Agricultural Service, USDA, Washington, D.C., April 1969. [PB 210 596].

XII-4 Falcon, Walter P.; & Carl H. Gotsch - "Relative Price Response, Economic Efficiency and Technological Change: A Study of Punjab Agriculture," in Walter P. Falcon & Gustav F. Papanek (eds.), Development Policy II - The Pakistan Experience, Harvard University Press, Cambridge, Mass., 1971, pp. 160-185.

XII-5 Gotsch, Carl H. - "Technical Change and the Distribution of Income in Rural Areas," American Journal of Agricultural Economics, Vol. 54, No. 2 (May 1972), pp. 326-341.

XII-6 Khan, Amir U.; & Bart Duff - Development of Agricultural Mechanization Technologies at the International Rice Research Institute. Agricultural Engineering Department, International Rice Research Institute, Los Banos, Laguna, Philippines, 1973. 25 pp. [PB 219 702].

XII-7 Krishna, Raj - "Measurement of the Direct and Indirect Employment Effects of Agricultural Growth with Technical Change," in E. O. Edwards (ed.), Employment in Developing Nations, Columbia University Press, N.Y., 1974, pp. 273-296.

XII-8 Lele, Uma J.; & John W. Mellor - "Jobs, Poverty and the 'Green Revolution'," International Affairs, Vol. 48, No. 1 (Jan. 1972), pp. 20-32.

XII-9 Mellor, John W. - Developing Science and Technology Systems: Experience and Lessons from Agriculture. Department of Agricultural Economics, Cornell University, Ithaca, N.Y., Occasional Paper No. 63, Employment and Income Distribution Project, May 1973. 15 pp. [PN-AAA-391].

XII-10 Nulty, Leslie - The Green Revolution in West Pakistan: Implications of Technological Change. Praeger Publishers, N.Y., 1972. 174 pp.

XII-11 Palmer, Ingrid - Food and the New Agricultural Technology. UNRISD, Report No. 72.9, Geneva, 1972. 85 pp.

XII-12 Ruttan, Vernon W.; & Yujiro Hayami - Strategies for Agricultural Development. Economic Development Center, Minnesota University, St. Paul, Minn., 1972. 28 pp. [PB 223 883].

XII-13 UNIDO - The Role of UNIDO in Promoting the Agricultural Machinery and Implements Industry. 1972. 88 pp. [ID.96].

XII-14 Vollrath, Thomas L. - An Econological Analysis of Small Farm Modernization: Adjustments to Mechanization in Upper Volta. Tennessee University, Knoxville, Tenn., 1973. III pp. [PB 224 181].

XII-15 Yudelman, Montague; Gavan Butler; & Ranadev Banerji - Technological Change in Agriculture and Employment in Developing Countries. OECD Development Centre, Development Centre Studies, Employment Series No. 4, Paris, 1971. 204 pp.

For further references on this topic, see items:

I-4, II-13, III-3, VII-2, IX-9, XVI-14

XIII. NATURAL RESOURCES

XIII-1 AID - Development of the Tropical Wood Resource. Office of Science and Technology Staff Report, AID, Washington, D.C. TA/OST 73-23. [PB 231 006/AS].

XIII-2 _____. - Forestry in Developing Countries - Potentials, Constraints, and Opportunities (Preliminary Survey). Office of Science and Technology, AID, Washington, D.C., 1972. 73 pp. [PB 212 726].

XIII-3 _____. - The Role of the Agency for International Development in the Field of Natural Resources Planning and Management. Summary Report of the Workshop held in Washington, D.C., Jan. 21, 1972. Office of Science and Technology, AID, Washington, D.C., 1972. 155 pp. TA/OST 72-8.

XIII-4 _____. - Technological Opportunities for Tropical Forestry Development. Office of Science and Technology, Staff Report, AID, Washington, D.C., 1973. 31 pp. TA/OST 73-21. [PB 229 843].

XIII-5 Lawrence, Mary Margaret (ed.) - CENTO Conference on Forestry Development Policy, held in Ankara, Turkey, June 8-12, 1970. Office of the United States Economic Coordinator for CENTO Affairs, 1971. [PB 210 511].

XIII-6 National Oceanographic Data Center - Strengthening Capabilities of Developing Countries to Acquire, Process and Utilize Information about Ocean Resources. Washington, D.C., 1973. [PB 227 449/45].

XIII-7 UN - The Role of Science and Technology in Reducing the Impact of Natural Disasters on Mankind. Report of the ACAST, Department of Economic and Social Affairs, UN, N.Y., 1972. 33 pp. [ST/ECA/157].

XIII-8 Anon. - Transfer of Water Resources Knowledge: Proceedings of the First International Conference on the Transfer of Water Resource Knowledge, Sept. 1972, Fort Collins, Colorado. Water Resources Publications, Ft. Collins, Colorado, 1973.

For further references on this topic, see items;

II-13, II-50, III-2, III-3, Va-5

XIV. HEALTH

XIV-1 National Academy of Sciences - Mosquito Control - Some Perspectives for Developing Countries. Ad Hoc Panel of the Advisory Committee on Technological Innovation of the NAS, Washington, D.C., 1973. 63 pp.

XIV-2 UN - Human Fertility and National Development: A Challenge to Science and Technology. Department of Economic and Social Affairs, UN, N.Y., 1971. 140 pp.

XIV-3 UNIDO/WHO - The Health Aspects of Industrialization. International Symposium on Industrial Development, Athens, 1967. Vienna, 1967. 28 pp.

For further references on this topic, see items:

I-4, II-13, IX-9, XII-11

XV. INDUSTRY/TECHNICAL STUDIES AND REPORTS

a. Agriculture

XVa-1 Gotsch, Carl H. - "Tractor Mechanization and Rural Development in Pakistan," International Labor Review, Vol. 107, No. 2 (Feb. 1973), pp. 133-166.

XVa-2 Intermediate Technology Development Group - Tools for Agriculture: A Guide to Hand-Operated and Animal Drawn Equipment. Second Edition of Tools for Progress.

XVa-3 Lal, Deepak - Wells and Welfare: An Exploratory Cost-Benefit Study of the Economics of Small-Scale Irrigation in Maharashtra. Development Centre of the OECD, Development Centre Studies, Series on Cost-Benefit Analysis, Case Study No. 1, 1972. 162 pp.

XVa-4 Thorman, P.H. - "Labor Intensive Irrigation Works and Dam Construction: A Review of Some Research," International Labor Review, Vol. 106, Nos. 2-3 (Aug.-Sept. 1972), pp. 151-166.

XVa-5 Wills, J. R. - "Effects of Modern Inputs on Agriculture Income and Employment in Uttar Pradesh, India," American Journal of Agricultural Economics, Vol. 54, No. 3 (Aug. 1972), pp. 452-59.

b. Natural Resources

XVb-1 AID - Techniques for Assessing Hydrological Potentials in Developing Countries. (State of the Art and Research Priorities). Office of Science and Technology, Staff Report, AID, Washington, D.C. TA/OST 73-17. [PB 215 149].

XVb-2 _____. - Utilization of Tropical Forests. (A Review of the Forestry Literature in the AID Reference Center). Office of Science and Technology, Staff Report, AID, Washington, D.C. TA/OST 73-20. [PB 229 822].

XVb-3 UN, Department of Economic and Social Affairs - Small-Scale Mining in the Developing Countries. N.Y., 1972. 171 pp. [ST/ECA/155].

c. Food Processing

XVc-1 Richter, L. - Water-Saving Techniques in Food-Processing Plants. UNIDO Food Industry Studies NR. 3, UN, N.Y., 1969. 69 pp. [ID/SER.1/3] and [ID/SER.1/3 Corr. 1].

d. Power

XVd-1 Lossel, Harmut - Low-Cost Windmill for Developing Nations. VITA, Schenectady, N.Y., n.d. 40 pp.

XVd-2 Hamm, Hans, W. - Low-Cost Development of Small Water-Power Sites. VITA, Oct. 1971.

XVd-3 Merriam, Marshal F. - Decentralized Power Sources for Developing Countries. Technology and Development Institute, East-West Center, Working Paper Series No. 19, Honolulu, March 1972. 20 pp.

XVd-4 NAS/NAE - Solar Energy in Developing Countries: Perspectives and Prospects. NAS/NAE Report, Washington, D.C., 1972. [PB 208 550].

XVd-5 UN, Department of Economic and Social Affairs - Small-Scale Power Generation: A Study for Pioneer Electrification Work. N.Y., 1967. 215 pp.

e. Low-Cost Housing and Construction

XVe-1 Chao, Kang - The Construction Industry in Communist China. Aldine Publishing Co., Chicago. 1968.

XVe-2 Christensen, P. N. - Concrete Technology. UNIDO Inter-regional Seminar on the Manufacture and Utilization of Portland Cement, Holte, Denmark, 1972. Vienna, 1972. 20 pp. [ID/WG.125/13].

XVe-3 Cockburn, Charles - Construction in Overseas Development. Overseas Development Institute, Ltd., London, 1970.

XVe-4 Colby, John G. - The Industrialization of Low-Cost Housing in Developing Countries -- Opportunities and Problems. University of Wisconsin-Milwaukee Center for Latin American Studies, Center Discussion Paper No. 36, 1971. 26 pp.

XVe-5 Dreiblatt, David - The Economics of Heavy Earthmoving. Praeger Publishers, N.Y., 1972.

XVe-6 Ho, Peter H. P.; Louis J. Goodman; & Ernesto Tabujara - Adaptive Technology Workshop II: Feasibility, Design and Implementation of Low-Cost Housing for Low-Income Families, July 9-20, 1973. Part I: Proceedings, 52 pp. Part II: Individual Reports, 281 pp. Technology and Development Institute, East-West Center, Honolulu, 1973.

XVe-7 ILO, Building, Civil Engineering and Public Works Committee, Eighth Session - "The Construction Industry in Developing Countries," General Report, (Supplement), First Item on the Agenda, Chap. III, Geneva, 1971.

XVe-8 _____, Seventh Session - Technological Changes in the Construction Industry and their Socio-Economic Consequences. Geneva, 1964.

XVe-9 Lewis, G. P. - "The Public Works Approach to Low-End Poverty Problems: The New Potentialities of an Old Answer," Journal of Development Planning, No. 5 (1972), pp. 84-114.

XVe-10 Moavenzadeh, Fred - "The Role of Construction Industry in Development," Public Policy, Vol. XXII, No. 2 (Spring 1974), pp. 219-242.

XVe-11 NAS - Ferrocement: Applications in Developing Countries. Ad Hoc Panel on the Utilization of Ferrocement in Developing Countries of the Advisory Committee on Technological Innovation of the NAS. 89 pp.

XVe-12 _____. - Roofing in Developing Countries - Research for New Technologies. NAS and National Research Council Report, 1974. [PB 234 503/AS].

XVe-13 Strassman, W. P. - "The Construction Sector in Economic Development," Scottish Journal of Political Economy, (Nov. 1970), pp. 391-409.

XVe-14 _____. - "Innovation and Employment in Building: The Experience of Peru," Oxford Economic Papers, Vol. 22, No. 2 (July 1970), pp. 243-259.

XVe- _____. - Technology and Employment in Residential Construction in Development Countries. ILO, Geneva, forthcoming.

XVe-16 _____; & J. S. McConnaughey - "Appropriate Technology for Residential Construction in Less Developed Countries: A Survey of Research Trends and Possibilities," Paper prepared as a contribution to the NAS/NAE Study of Appropriate Technologies in Developing Economies, Michigan State University, East Lansing, Sept. 1973. 25 pp.

XVe-17 Terner, I. D.; & J.F.C. Turner - "Industrialized Housing: The Opportunity and the Problems in Developing Areas," U.S. Department of HUD, Office of International Affairs, Washington, D.C., Jan. 1972.

XVe-18 Tinbergen, J. - "The Appraisal of Road Construction: Two Calculation Schemes," The Review of Economics and Statistics, Vol. 39, No. 3 (Aug. 1957).

XVe-19 UNIDO - Regional Workshop on Clay Building Industries in Africa, Tunis, 1970. Un, N.Y., 1971. 23 pp. [ID/71 ID/WG.81/27].

XVe-20 de Wilde, John C.; & Associates - A Framework for the Promotion of Construction Industries in the Developing Countries. World Bank, Nov. 1973. 106 pp. Mimeo.

XVe-21 World Bank - Study of the Substitution of Labor and Equipment in Civil Construction. Phase II, Final Report. Washington, D.C., Jan. 1974.

f. Transportation and Automobile Industry

XVf-1 Baranson, Jack - Automotive Industries in Developing Countries. World Bank Staff Occasional Papers No. 8, IBRD, 1969. 106 pp. Distributed by Johns Hopkins Press, Maryland.

XVf-2 Cheaney, E. S.; R. D. Leis; & D. M. Landreman (eds.) - Transportation Technology for Development, Vol. I. Battelle Memorial Institute, Columbus Laboratories, 1968. [PB 210 592].

XVf-3 _____. - Transportation Technology for Development, Vol. II. Battelle Memorial Institute, Columbus Laboratories, 1968. [PB 210 593].

XVf-4 Picard, F. L. - The Motor Vehicle Industry. Perspectives for Industrial Development in the Second U.N. Development Decade. UNIDO, N.Y., 1972. 86 pp. [ID/78].

g. Metallurgy and Chemical Industries

XVg-1 Construcci, M. de A. - The Development and Acquisition of Steel Technology Know-How in Brazil. Workshop on Creation and Transfer of Metallurgical Know-How, Jamshedpur, 1971. UNIDO, Vienna, 1971. 15 pp. [ID/WG.110/12].

XVg-2 Giral, Jose B. - "Appropriate Chemical Technologies for Developing Economies," A report prepared for a Study of Appropriate Technologies in Developing Economies of the Board on Science and Technology for International Development (BOSTID), NAS/NAE, Office of the Foreign Secretary, Washington, D.C., 1972.

XVg-3 UNIDO - Plant Location and Cost Aspects of Integrated Steel Plants in Developing Countries. Interregional Symposium on the Iron and Steel Industry, 3rd, Brasilia, 1973. Vienna, 1973.

XVg-4 UNIDO - Portfolio of Selected Metal-Transforming Technologies. 1973. 111 pp.

XVg-5 _____. - The Role of Research and Development Work and Pilot Plants in the Creation and Transfer of Metallurgical Know-How in Developing Countries and Regions. [ID/WG.110/10].

h. Machine Tools

XVh-1 Huilcarema, H. N. - Report on the Situation in the Machine Tool Industry in Ecuador. Regional Seminar on Machine Tools for Countries in Latin America, Buenos Aires and Sao Paulo, 1972. UNIDO, Vienna, 1972. 13 pp. [ID/WG.113/14].

XVh-2 UNIDO - Effective Use of Machine Tools and Related Aspects of Management in Developing Countries. UNIDO Secretariat. [ID/77].

XVh-3 _____. - Machine Tools in Latin America. UN, N.Y., 1974. 73 pp. [ID/112(ID/WG.113/45)].

i. Computers

XVi-1 Kamman, Alan B. - Development of Computer Applications in Emerging Nations. AFIPS Conference Proceedings, Vol. 39 (1971), pp. 17-26.

XVi-2 Simmons, Ralph A. - Guidelines for the Use of Computer Technology in the Developing Countries. Interim Report, Jointly sponsored by AID and NBS, Dec. 1973. 164 pp. [NBSIR 73-423].

XVi-3 de Sola Pool, Ithiel; Philip Stone; & Alexander Szalai - Communications, Computers and Automation for Development. UNITAR Research Report No. 6, N.Y., 1971. 61 pp.

XVi-4 UN, Department of Economic and Social Affairs - The Application of Computer Technology for Development. N.Y., 1971. 122 pp. [E/4800 ST/ECA/136].

j. Remote Sensing

XVj-1 AID - Remote Sensing: A Developmental Framework and Case Studies. OST Staff Report, AID, Washington, D.C., 1973. 58 pp. TA/OST 73-15. [PB 214 861/7].

XVj-2 Glaser, P. E.; et al. - Space Technology Transfer and Developing Nations. National Aeronautics and Space Administration, Washington, D.C., 1968.

XVj-3 UN - The Application of Space Technology to Development. Economic and Social Council, ACAST, N.Y., 1973. 78 pp.

XVj-4 U.S. Geological Survey - Asian Seminar and Workshop on Remote Sensing. Held at the University of the Philippines, May 7-18, 1973. U.S. Geological Survey, Sept. 1973.

For further references on these topics, see items:

XVa: XII-13

XVb: VIII-26, XIII-1, XIII-2, XIII-4

XVe: I-6, II-13, VIII-28, X-17

XVf: II-13

XVg: Vb-1, VII-50, VIII-4, VIII-31, VIII-42, VIII-47, VIII-60, X-10

XVI. COUNTRY STUDIES/REGIONAL STUDIES

XVI-1 Araoz, Alberto; & Carlos A. Martinez Vidal - "Science and Industry: An Argentine Case," Study Series on Scientific and Technological Development No. 19, Regional Scientific and Technological Development Program, OAS, Washington, D.C., 1974.

XVI-2 Balderose, George; & Anne Fitzgerald - "The Wingspread Conference on Science in China, May 29-31, 1973," Organized by the Committee on Scholarly Communication with the People's Republic of China and the National Committee on U.S.-China Relations in cooperation with the Johnson Foundation, Racine, Wisconsin, 26 pp. Mimeo.

XVI-3 Behrman, Jack N. - The Role of International Companies in Latin American Integration. Lexington Books, 1972. 200 pp.

XVI-4 Brecher, Irving; & S. A. Abbas - Foreign Aid and Industrial Development in Pakistan. Cambridge University Press, N.Y., 1972. 271 pp.

XVI-5 Chapdelaine, M. - "Organization for Science Planning and Research Coordination," Report No. 2 of UNESCO's Indonesia, Science, Technology and Research Policies and Programmes for the Second Five-Year Plan (1974-1979) of Indonesia. UNESCO, Paris, 1973. 35 pp. [2949/RMO.RD/SP].

XVI-6 Cheng, Chu Yuan - The Machine-Building Industry in Communist China. Aldine-Atheston Publishing Co., Chicago and N.Y., 1971. 339 pp.

XVI-7 Child, Frank C.; & Hiromitsu Kaneda - "Links to the Green Revolution: A Study of Small-Scale, Agriculturally Related Industry in the Pakistan Punjab," Economic Development and Cultural Change, Vol. 23, No. 2 (Jan. 1975), pp. 249-275.

XVI-8 Dean, Genevieve C. - "A Note on the Sources of Technological Innovation in the People's Republic of China," The Journal of Development Studies, Vol. 9, No. 1 (Oct. 1972), pp. 187-199.

XVI-9 _____. - "Science, Technology and Development: China as a 'Case Study'," The China Quarterly (July-Sept. 1972), 15 pp.

XVI-10 East-West Center - Pilot Study on the Generation and Diffusion of Adaptive Technology in Indonesia: A Summary Report. Technology and Development Institute, East-West Center, Honolulu, 1972. 74 pp.

XVI-11 _____. - Seminar Proceedings on the Generation and Diffusion of Adaptive Technology, Oct. 4-6, 1972. East-West Center, Honolulu, 1972. 53 pp.

XVI-12 Felix, David - "On the Diffusion of Technology in Latin America," prepared for the Conference on Diffusion of Technology and Economic Development, Bellagio, April 1973. 68 pp. (From the Institute of Development Studies, Sussex.)

XVI-13 Gowon, Yakubu - "Science, Technology and Nigerian Development," Impact of Science on Society, Vol. 22 (1972), pp. 55-72.

XVI-14 Green, David A.G. - Ethiopia: An Economic Analysis of Technological Change in Four Agricultural Production Systems. African Studies Center in cooperation with the Institute of International Agriculture, Michigan State University, East Lansing, 1974. 120 pp.

XVI-15 Jen, C. K. - "Mao's 'Serve the People' Ethic," Science and Public Affairs, Vol. XXX (March 1974), pp. 15-25.

XVI-16 Lee, Rensselaer, W. - "Ideology and Technical Innovation in Chinese Industry, 1949-1971," Asian Survey, (1972), pp. 647-661.

XVI-17 Liberian Bank for Industrial Development and Investment - Report and Accounts, 1973. Monrovia, Liberia, 1974. 38 pp.

XVI-18 McTaggart, William D. - Industrial Development in West Malaysia, 1968. Center for Asian Studies, Arizona State University, Occasional Paper No. 2, Tempe, Arizona, 1972. 65 pp.

XVI-19 NAS/NAE - Science and Technology in Sao Paulo's Development. NAS/NAE Report, Washington, D.C., 1972.

XVI-20 NAS - Appendix B to Summary Report of the NAS-NRC Workshop on Science Planning and Policy in Thailand, Bangkok, Thailand, 3-6 July 1972. Jointly sponsored by the National Research Council, Thailand and the NAS.

XVI-21 OAS - Regional Scientific and Technological Development Program of the Organization of American States. Information Document, OAS, Washington, D.C., 1970. 6 pp.

XVI-22 _____. - Science, Technology and Development: The Consensus of Brasilia, Department of Scientific Affairs, OAS, Washington, D.C., 1972. 15 pp.

XVI-23 _____. - Specialized Conference on the Application of Science and Technology to Latin American Development, May 12-19, 1972, Brasilia, Brazil, 1972. 178 pp.

XVI-24 Rahman, A.; R. N. Bhargava; M. A. Qureshi; & Sudarshan Pruthi - Science and Technology in India. Indian Council for Cultural Relations, New Delhi, 1973. 236 pp.

XVI-25 Rahnema, Majid - "Iran: Science Policy for Development," Impact of Science on Society, Vol. XIX (Jan.-March 1969), pp. 53-61.

XVI-26 Reyes, Francisco G. - Science and Technology in Philippine Society. University of Santo Tomas Publications, Manila, Philippines, 1972. 108 pp.

XVI-27 Rogers, Everett; Joseph R. Ascroft; & Niels G. Roling - Diffusion of Innovations in Brazil, Nigeria and India. Diffusion of Innovations Research Report 24, Department of Communication, Michigan State University, East Lansing, Mich., 1970. [PB 216 275].

XVI-28 Rweyemamu, Justinian - Underdevelopment and Industrialization in Tanzania: A Study of Perverse Capitalist Industrial Development. Oxford University Press, N.Y., 1974. 273 pp.

XVI-29 Seidel, Robert N. - Toward an Andean Common Market for Science and Technology. Program on Policies for Science and Technology in Developing Nations, Cornell University, Ithaca, N.Y., 1974. 164 pp.

XVI-30 Suttmeier, Richard P. - Scientific Societies: A Chapter in Chinese Scientific Development. Working Paper Series No. 30, Technology and Development Institute, East-West Center, Honolulu, Sept. 1972. 30 pp.

XVI-31 _____. - Science Policy in China: Twenty Years of Spiralling Change. Working Paper Series No. 36, Technology and Development Institute, East-West Center, Honolulu, 1973. 47 pp.

XVI-32 Tsu, Raphael - "High Technology in China," Scientific American, Vol. 227, No. 6 (Dec. 1972), pp. 13-17.

XVI-33 Uchida, Genko - "Technology in China," Scientific American, Vol. 215, No. 5 (Nov. 1966), pp. 37-45.

XVI-34 UNCTAD - Major Issues Arising from the Transfer of Technology to Developing Countries: Case Study of Chile. Geneva, 1974. [TD/B/AC.11/20].

XVI-35 _____. - Major Issues Arising from the Transfer of Technology to Developing Countries: Case Study of Ethiopia. Geneva, 1974. [TD/B/AC.11/21].

XVI-36 _____. - Major Issues Arising from the Transfer of Technology to Developing Countries: Case Study of Hungary. Geneva, 1974. [TD/B/AC.11/18].

XVI-37 _____. - Major Issues Arising from the Transfer of Technology to Developing Countries: Case Study of Spain. Geneva, 1974. [TD/B.AC.11/17].

XVI-38 UNESCO - Science and Technology in Asian Development. UNESCO, Paris, 1970.

XVI-39 Wils, Frits C.M. - Agricultural and Industrial Development in Peru: Some Observations on their Interrelationship. Institute of Social Studies, Occasional Papers No. 19, The Hague, 1972. 28 pp.

XVI-40 Young, Alistair - Industrial Diversification in Zambia. Praeger Special Studies, N.Y., 1973. 350 pp.

XVI-41 Zahlan, A. B. - "The Acquisition of Scientific and Technological Capabilities by Arab Countries," Bulletin of Atomic Scientists, Vol. XXV, No. 9 (Nov. 1969), pp. 7-10.

XVI-42 _____. - "Arab-Israeli Science and Technology Gap," Science and Public Policy, Vol. 1, No. 9 (Sept. 1974), pp. 239-245.
ALSO: Journal of Palestine Studies, Vol. 1, No. 3 (Spring 1972).

For further references on this topic, see items:

II-50, II-53, II-55, III-3, III-6, III-8, III-10, III-11, III-12, IV-2, IV-6, IV-9, IV-10, IV-11, IV-12, IV-20, IV-21, Va-1, Vb-10, VI-1, VI-4, VII-2, VII-16, VII-17, VII-18, VII-27, VII-28, VII-41, VII-48, VIII-3, VIII-5, VIII-8, VIII-9, VIII-21, VIII-22, VIII-27, VIII-30, VIII-32, VIII-34, VIII-35, VIII-36, VIII-37, VIII-38, VIII-48, VIII-49, VIII-51, VIII-57, IX-5, X-1, X-2, X-4, X-7, X-8, X-9, X-12, X-13, X-14, X-18, X-20, X-25, X-26, X-28, XI-1, XI-2, XI-3, XI-6, XII-4, XII-5, XII-6, XII-10, XIII-2, XVa-1, XVa-3, XVa-5, XVe-1, XVe-14, XVe-15, XVe-19, XVg-1, XVh-1, XVh-3, XVj-4

XVII. ANALYSIS AND METHODOLOGY

XVII-1 Chapman, Gordon - Program Budgeting as a Tool for Scientific and Technological Policy and Planning. Regional Scientific and Technological Development Program, Department of Scientific Affairs, General Secretariat of the OAS, Washington, D.C., 1972.

XVII-2 Dasgupta, Partha - "An Analysis of Two Approaches to Project Evaluation in Developing Countries," Industrialization and Productivity, No. 15 (1970), pp. 5-15. (UNIDO).

XVII-3 _____; A. K. Sen; & S. Marglin - Guidelines for Project Evaluation. UNIDO, Vienna, 1972.

XVII-4 Jantsch, E. - Technological Forecasting - A Tool for a Dynamic Science Policy. Problems of Science Policy, OECD, Paris, 1968.

XVII-5 Little, I.M.D.; & J. A. Mirrlees - Project Appraisal and Planning for Developing Countries. Basic Books, N.Y., 1974. 388 pp.

XVII-6 _____; _____. - A Manual of Industrial Project Analysis. Vol. II, Social Cost-Benefit Analysis, OECD, Paris, 1968. 280 pp.

XVII-7 _____. - "Further Reflections on the OECD Manual of Project Analysis in Developing Countries," in J. N. Bhagwati and R. S. Eckaus (eds.), Development Planning: Essays in Honor of Paul Rosenstein-Rodan, Allen and Unwin, London, 1972, pp. 257-282.

XVII-8 Maestre, Claude; & Keith Pavitt - Analytical Methods in Government Science Policy: An Evaluation. Science Policy Studies, OECD, Paris, 1972. 89 pp.

XVII-9 Mehmet, O. - "Benefit-Cost Analysis of Alternative Techniques of Production," International Labor Review, Vol. 104 (July-Aug. 1971), pp. 37-50.

XVII-10 O'Herlihy, C. St. J. - "Capital/Labor Substitution and the Developing Countries: A Problem of Measurement," Bulletin, Oxford University Institute of Economics and Statistics, Vol. 34, No. 3 (Aug. 1972), pp. 269-280.

XVII-11 OAS - Methods of Evaluation of Technology, Volume IV. Proyecto Piloto de Transferencia de Tecnologia, Programa Regional de Desarrollo Cientifico y Tecnologio, Departamento de Asuntos Cientificos, OAS, Washington, D.C., 1974. 95 pp. (In Spanish and English.)

XVII-12 OECD - Manual of Industrial Project Analysis in Developing Countries. OECD, Development Centre, Paris, 1972. 3 Volumes.

XVII-13 UNESCO - Manual for Surveying National Scientific and Technological Potential - Collection and Processing of Data; Management of the "R & D" System. UNESCO National Distributors, N.Y., 1970. 251 pp. [NS/SPS/15].

XVII-14 Wilkes, John D. - Methodology for Surveys of Levels of Technological Development of Industrial Sectors in Latin America. Regional Scientific and Technological Development Program, Department of Scientific Affairs, General Secretariat of the OAS, Washington, D.C., 1972. 103 pp.

XVII-15 Williams, Bruce R. - Cost-Benefit Analysis of Investment in Science and Technology. UNESCO, Paris, 1968. [SHC/CS/244/5].

For further references on this topic, see items:

II-26, II-31, III-16, IV-4, VI-1, VIII-11, X-16, XII-4, XVa-3, XVb-1

AUTHOR INDEX

Abbas, S.A. (I. BRECHER) XVI-4

Aburatani, S. X-1

Adelman, I. (C.T. Morris) II-1, II-2, II-3

Aggarwal, P.C. VII-2

Ahluwalia, M.S. (H. CHENERY; C.L.G. Bell; J.H. Duloy; & R. Jolly) II-12

Alhaique, C. IV-1

Allen, T.J. (S. Cooney) VIII-1, VIII-2, VIII-3

Altekar, V.A. VIII-4

Aluko, S.A. X-2

Araoz, A. (C.A.M. Vidal) XVI-1

Ascroft, J.R. (E.M. ROGERS; N.G. Roling) XVI-27

Aurora, G.S. (M.V.K. Sivamohan) IV-2

Azami, B.A. X-3

Balassa, B. II-5

Balasubramanyam, V.N. VIII-5

Balderose, G. (A. Fitzgerald) XVI-2

Banerji, R. (M. YUDELMAN; G. Butler) XII-15

Bar-Zakay, S.N. VIII-6, VIII-7

Baranson, J. I-3, II-6, XVf-1

Bard, B.J.A. IV-3

Barnett, R. (R. Muller) II-7

Barnett, V.M. VII-3

Behrman, J.N. XVI-3

Bell, C.L.G. XII-1

Bell, C.L.G. (H. CHENERY; M.S. Ahluwalia; J.H. Duloy; R. Jolly) II-12

Berry, A. X-4

Bhagwati, J.N. VII-4, IX-4

Bhalla, A.S. VII-4

Bhargava, P.N. (A. RAHMAN; M.A. Qureshi; S. Pruthi) XVI-24

Bhattasali, B.N. VII-5

Biggs, S. XII-2

Blackett, P.M.S. II-8, II-9, II-10

Bliss, C. (R.M. NADKARNI; C.L. Kusik) VIII-31

Boon, G.K. VII-16

Bossel, H. XVd-1

Brecher, I. (S.A. Abbas) XVI-4

Brown, J.A. (C.T. Stewart) XI-1

Brown, M. (M. USUI) VII-43

Bruton, H.J. VII-7

Buchele, R.B. X-5

Butler, G. (M. YUDELMAN; R. Banerji) XII-15

Bykov, A.N. (A.V. Letenko, M.P. Strepetova) VIII-8

Carnoy, M. VI-1

Chakrabarti, A.K. (A.H. RUBENSTEIN, T.W. Schlie) VIII-41

Chalmers, D.A. VIII-30

Chao, Kang XVe-1

Chapdelaine, M. XVI-5

Chapman, G. XVII-1

Cheaney, E.S. (R.D. Leis; D.M. Landreman) XVf-2, XVf-3

Chenery, H.B. II-11, II-12

Chenery, H.B. (M.S. Ahluwalia; C.L.G. Bell; J.H. Duloy; R. Jolly) II-12

Chenery, H.B. (L. Taylor) II-11

Cheng, C.Y. XVI-6

Child, F.C. (H. Kaneda) XVI-7

Chowdhury, P.N. IV-4

Christensen, P.N. XVe-2

Chudson, W.A. VIII-9

Clarke, R. II-13

Cockburn, C. XVe-3

Cockroft, J. VII-8

Colby, J.G. XVe-4

Contrucci, M. de A. XVg-1

Cooney, S. (T.J. ALLEN) VIII-1, VIII-2, VIII-3

Cooper, C. II-14, II-15, III-4, VIII-11, VIII-12

Cooper, C. (F. Sercovitch) VIII-10

Cooper, C. (A.K. Sen) VIII-13

Crespin, G. VIII-14

Cresson, L. (K.L. NANJAPPA) X-13

Cukor, G. VI-2, VI-3

Dalrymple, D.G. XII-3

Dasgupta, P. XVII-2

Dasgupta, P. (A.K. Sen; S. Marglin) XVII-3

Davis, R.G. XI-2

Dean, G. XVI-8, XVI-9

Dedijier, S. III-5

Desai, P. IX-5

Domergue, M. IX-6

Dore, R. VI-4

Dreiblatt, D. XVe-5

Duff, B. (A.U. KHAN) XII-6

Duloy, J.H. (H. CHENERY: M.S. Ahluwalia; C.L.G. Bell; R. Jolly) II-12

Eckaus, R.S. VII-9, VII-10

Edwards, E.O. VII-11, VII-12

Edwards, E.O. (M. Todaro) XI-4

El-Halfawy, M. Vb-1

Esman, M.J. (J. Montgomery) III-6

Falcon, W.P. (G.F. Papanek) XII-4

Falcon, W.P. (C.H. Gotsch) XII-4

Felix, D. XVI-12

Fitzgerald, A. (G. BALDEROSE) XVI-2

Forsyth, D.J.C. (J. PICKETT; N.S. McBain) VII-24

Foster, G.M. II-16

Froment, D. (M. USUI) VIII-61

Gabay, M. Va-1

Galenson, W. VII-22

Giedroyc, M.J.H. VIII-16

Gillon, P. & H. XI-5

Giral, J.B. XVg-2

Glaser, P.E. XVj-2

Goodman, L.J. (H.P. HO; E. Tabujara) XVe-6

Gotsch, C.H. VII-14, XII-15, XVa-1

Gotsch, C.H. (W.P. FALCON) XII-4

Goulet, D. II-17

Goulet, D. (M. Hudson) II-18

Gowen, Y. XVI-13

Green, D.A.G. XVI-14

Gruber, W.H. (D.G. Marquis) VIII-17

Halty-Carrere, M. III-7

Hamm, H.W. XVd-2

Hawbaker, G.D. X-7

Hawthorne, E.P. VIII-18

Hayami, Y. (V.W. RUTTAN) XII-12

Herrera, A. III-8

Hetzler, S.A. II-19, II-20

Ho, H.P. (L.J. Goodman; E. Tabujara) XVe-6

Hodges, W.L. (M.A. Kelly) II-21

Hudson, M. (D. GOULET) II-18

Huilcarema, H.N. XVh-1

Hunter, G. IV-5

Ilchman, W.F. (N.T. Uphoff) III-9

India (Government) X-8, X-9

Ishikawa, S. VII-18

Jackson, S. VII-19, VII-20

Jantsch, E. XVII-4

Jaquier, N. III-11

Jen, C.K. XVI-15

Johnson, B. (H. Singer; B. Mackay) IX-7

Joklik, O.F. X-10

Jolly, R. (H. CHENERY: M.S. Ahluwalia; C.L.G. Bell; J.H. Duloy) II-12

Joy, L. (D. SEERS) VIII-25

Jurado, G.H. VII-21

Kalachek, E.K. (R.R. NELSON: M.J. Peck) II-29

Kamman, A.B. XVi-1

Kanapathy, V. IV-6

Kaplinsky, R. VIII-19, VIII-20

Kaneda, H. (F.C. CHILD) XVI-7

Kaynor, R.S. (K.F. Schultz) VI-6

Kelly, M.A. (W.L. HODGES) II-21

Khan, A.U. VII-22

Khan, A.U. (B. Duff) XII-6

Kilby, P. II-22, II-23

Krishna, R. XII-7

Kusik, C.L. (R.M. NADKARNI; C. Bliss) VIII-31

Lachmann, K.E. VIII-23

Lal, D. XVa-3

Landreman, D.M. (E.S. CHEANEY; R.D. Leis) XVf-2, XVf-3

Lange, J.H. X-11

Laporte, T.R. VIII-24

Lawrence, M.M. XIII-5

Lee, E. (J. Wilkie) IV-12

Lee, R.W. XVI-16

Leis, R.D. (E.S. CHEANEY; D.M. Landreman) XVf-2, XVf-3

Lele, U.J. (J. Mellor) XII-8

Letenko, A.V. (A.N. BYKOV; M.P. Strepetova) VIII-8

Lewis, G.P. XVe-9

Lewis, S.R. III-12

Lipton, M. VIII-25

Little, I.M.D. (J.A. Mirrlees) XVII-5, XVII-6, XVII-7

Loman, D. Va-2

Mackay, B. (B. JOHNSON; S. Singer) IX-7

Mackey, R. (C. MITCHAM) II-25

Maestre, C. (K. Pavitt) XVII-8

Malgavkar, P.D. X-12

Marglin, S. (P. DASGUPTA; A.K. Sen) XVII-3

Marquis, D.G. (W.H. GRUBER) VIII-17

Marsden, K. VII-23

McBain, N.S. (J. PICKETT; D.J.C. Forsyth) VII-24

McConnaughey, J.S. (W.P. STRASSMAN) XVe-16

McTaggart, W.D. XVI-18

Mehmet, O. XVII-9

Meier, G.M. VII-10

Mellor, J.W. XII-9

Mellor, J.W. (U.J. LELE) XII-8

Merhav, M. II-24

Merriam, M.F. XVd-3

Meyer, K. R. VIII-26

Mintzes, J. VIII-27

Mirrlees, J.A. (I.M.D. LITTLE) XVII-5, XVII-6, XVII-7

Mitcham, C. (R. Mackey) II-25

Moavenzadeh, F. VIII-28, XVe-10

Montgomery, J.D. III-13, VIII-29

Montgomery, J.D. (M.J. ESMAN) III-6

Morehouse, W. II-26

Morgan, R.P. VIII-30

Morris, C.T. (I. ADELMAN) II-1, II-2, II-3

Morse, R. Va-3

Morse, R. (E. STALEY) X-16

Muller, R. (R. Barnett) II-7

Nader, C. (A.B. Zahlan) II-27

Nadkarni, R.M. (C.L. Kusik; C. Bliss) VIII-31

Nagi, M.H. III-14

Nanjappa, K.L. (L. Cresson) X-13

Nayudamma, Y. IV-13

Nelson, R.R. VIII-33

Nelson, R.R. (M.J. Peck; E.K. Kalachek) II-29

Norris, K. IV-14

Nulty, XII-10

O'Donnell, G. (J.F. Sabato) IV-15

O'Herlihy, C. St. J. XVII-10

Old, B.S. IV-16

Ozawa, T. VIII-37, VIII-38

Pack, H. (M. Todaro) VIII-39

Palmer, I. XII-11

Papanek, G.F. II-31

Papanek, G.F. (W.P. FALCON) XII-4

Pavitt, K. (C. MAESTRE) XVII-8

Peck, M.J. (R.R. NELSON; E.K. Kalachek) II-29

Picard, F.L. XVf-4

Pickett, J. (D.J.C. Forsyth; N.S. McBain) VII-24

Poats, R.M. IX-9

Pruthi, S. (A. RAHMAN; R.N. Bhargava; M.A. Qureshi) XVI-24

Qureshi, M.A. (A. RAHMAN; R.N. Bhargava; S. Pruthi) XVI-24

Quinn, J.B. VIII-40

Rahman, A. (R.N. Bhargava; M.A. Qureshi; S. Pruthi) XVI-24

Rahnema, M. XVI-25

Ranis, G. VII-25

Reid, P.S. VII-26

Reuber, G.L. II-32

Reyes, F.G. XVI-26

Richter, L. XVc-1

Rivkin, S. II-33

Rogers, E.M. (R.S. Solo) II-42

Rogers, E.M. (J.R. Ascroft; N.G. Roling) XVI-27

Rolfe, W.E. II-34

Roling, N.G. (E.M. ROGERS; J.R. Ascroft) XVI-27

Rosen, M.E. VI-7

Rosenburg, N. II-35

Rubenstein, A.H. (T.W. Schlie; A.K. Chakrabarti) VIII-41

Ruttan, V.W. (Y. Hayami) XII-12

Rweyemamu, J. XVI-28

Sabato, J.A. (G. O'Donnell) IV-15

Sabato, J.A. (O. WORTHAN) XVII-11

Sachs, I. VII-27

Sadii, M. VII-28

Sagasti, F.R. II-36, III-15, III-16

Schlie, T.W. (A.H. RUBENSTEIN; A.K. Chakrabarti) VIII-41

Schultz, K.F. (R.S. Kaynor) VI-6

Schumacher, E.F. VII-17, VII-29

Schwartz, W.H. VIII-42

Seers, D. (L. Joy) VIII-25

Seidel, R.N. XVI-29

Segre, V.D. IX-10

Selwyn, P. IX-11

Sen, A.K. VII-30

Sen, A.K. (C. COOPER) VIII-13

Sen, A.K. (P. DASGUPTA; S. Marglin) XVII-3

Sercovitch, F. (C. COOPER) VIII-10

Sharpston, M. VI-8

Shils, E. III-17

Simmons, R.A. XVi-2

Singer, H.W. II-39

Singer, H.W. (B. JOHNSON; B. Mackay) IX-7

Singh, R.K.D.N. Vb-2, Vb-3

Sivamohan, M.V.K. (G.S. AURORA) IV-2

Skolnikoff, E.B. II-40, II-41

Slate, F.O. (M.A. Acton; T. Chinamora) I-6

Sola Pool, I. de (P. Stone; A. Szalai) XVi-3

Solo, R.A. (E.M. Rogers) II-42

Solow, R.M. VII-31

Spaey, J. II-43

Spencer, D.L. (A. Weroniak) VIII-46

Staley, E. (R. Morse) X-16

Starr, J.M. (C.A. THRALL) II-46

Stewart, C.T. (J.A. BROWN) XI-1

Stewart, F. VII-32, VII-33, VII-34, XVII-11

Stewart, F. (P. Streeten) VII-35

Stobaugh, R.B. VIII-47

Stone, C.A. (S. J. Uccetta) VIII-48

Stone, P. (I. de SOLA POOL; A. Szalai) XVi-3

Strasser, G. III-18

Strassman, W.P. II-44, VII-36, XVe-13, XVe-14, XVe-15

Strassman, W.P. (J.S. McConnaughey) XVe-16

Streeten, P. (F. STEWART) VII-35

Strepetova, M.P. (A.N. BYKOV; A.V. Letenko) VIII-8

Sunkel, O. VIII-49

Suttmeier, R.P. XVI-30, XVI-31

Szalai, A. (I. de SOLA POOL; P. Stone) XVi-3

Tabujara, E. (H.P. Ho; L.J. Goodman) XVe-6

Taylor, L. (H.B. CHENERY) II-11

Terner, I.D. (J.F.C. Turner) XVe-17

Thomas, D.W. X-17

Thompson, K.W. XI-7

Thorman, P.H. XVa-4

Thrall, C.A. (J.M. Starr) II-46

Tinbergen, J. VII-37, XVe-18

Todaro, M. (H. PACK) VIII-39

Todaro, M. (E.O. EDWARDS) XI-4

Todd, J.E. X-18

Trussell, P.C. Va-6

Tsu, R. XVI-32

Turner, J.F.C. (I.D. TERNER) XVe-15

Uccetta, S.J. (C.A. STONE) VIII-48

Uchida, G. XVI-33

Uphoff, N.T. (W.F. ILCHMAN) III-9

Urquidi, V.L. IV-20

Usui, M. VII-42, VII-43

Usui, M. (D. Froment) VIII-61

Utterback, J.M. IV-21, VII-44

Vaitsos, C.V. II-57, Vb-10, Vb-12, Vb-13, VII-45, VII-46

Vidal, C.A.M. (A. ARAOZ) XVI-1

Vollrath, T.L. XII-14

Watanabe, T. VI-10

Weed, S.J. VII-47

Wells, L.T. VII-48

Weroniak, A. (D.L. Spencer) VIII-46

Wilber, C.K. II-58

de Wilde, John C. XVe-20

Wilkes, J.D. XVII-14

Wilkie, J. (E. LEE) IV-12

Williams, B.R. II-59, XVII-15

Wills, J.R. XVa-5

Wils, F.C.M. XVI-39

Wilson, G.W. VII-43

Winston, G.C. VII-49

Wood, R.H. IX-13

Work, H.K. IV-23

Wortman, O. (J.A. SABATO) XVII-11

Wortzel, L.H. VIII-62

Young, A. XVI-40

Yudelman, M. (G. Butler;
R. Banerji) XII-15

Zahlan, A.B. XVI-41, XVI-42

Zahlan, A.B. (C. NADER) II-27

Zaludova, A.H. VI-12

ORGANIZATION INDEX

Academy for Educational Development I-1

AID I-2, II-4, III-1, III-2, III-3, III-6, Va-3, VII-1, VII-47, VIII-27, IX-1, IX-2, IX-3, X-7, XIII-1, XIII-2, XIII-3, XIII-4, XVb-1, XVb-2, XVi-2, XVj-1

American Foundation on Automation and Employment II-21

American Institutes of Research III-6

Asian Productivity Organization VII-5

Battelle Memorial Institute XVf-2, XVf-3

Center for the Study of Development and Social Change II-17

CENTO XIII-5

Centro de Investigaciones en Administracion Publica, Brazil IV-15

Council for Scientific and Industrial Research of Ghana IV-9

Denver Research Institute VIII-15

East African Academy (Kenya) I-4

Education and World Affairs IX-13, XI-2

German Foundation for Development Countries VII-13, X-6

HUD XVe-15

Illinois Institute of Technology Research Institute VIII-21 VIII-48

Indonesian Institute of Science IV-10, IV-11, IV-12

Institute of Development Studies II-39, II-57, VIII-19, XII-2, XVI-12

Intermediate Technology Development Group VII-17, XVa-2

International Council for Educational Development XI-7

International Economic Association II-59

ILO III-10, VI-5, VII-15, VII-16, VII-17,XVe-7, XVe-8, XVe-15

International Rice Research Institute XII-6

KIST VIII-21, VIII-22

Liberian Bank for Industrial Development and Investment XVI-17

NAS/NAE II-28, II-41, IV-7, IV-8, IV-9, IV-10, IV-11, IV-12, Va-4, Va-5, VII-18, XIV-1, XVd-4, XVe-11, XVe-12, XVe-16, XVg-2, XVI-19, XVI-20

National Aeronautics and Space Administration XVj-2

NBS III-18, XVi-2

National Commission for Scientific and Technological Research of Chile II-28

National Council of Applied Economic Research VIII-32, X-14

National Oceanographic Data Center XIII-6

National Research Council, Thailand XVI-20

National Science Foundation III-21, VIII-41

OECD I-5, II-30, III-11, III-12, IV-1, VII-42, VII-43, VIII-14, VIII-18, VIII-61, IX-8, X-15, XII-15, XVa-3, XVII-4, XVII-6, XVII-8, XVII-12

OAS III-7, III-15, Va-1, VIII-34, VIII-35, VIII-36, XI-6, XVI-1, XVI-21, XVI-22, XVI-23, XVII-1, XVII-11, XVII-14

ODC VII-18, VII-19

Overseas Development Institute IV-5, VII-8, XVe-3

PPSTDN I-6, XVI-29

Scientific and Technical Research Council of Turkey, IV-17

SEADAG (Asia Society) VII-21, VII-48, VIII-29

Southern Africa Technology Development Group X-11

SPRU (U. of Sussex) II-37, II-38, II-45, VIII-43, VIII-44, VIII-45

Technology and Development Institute of the East-West Center X-5, XI-3, XVd-3, XVe-6, XVI-10, XVI-11, XVI-30, XVI-31

UN II-13, II-47, II-48, II-49, II-50, II-51, II-52, IV-18, VII-15, VII-26, VII-38, VII-39, VII-40, VIII-10, VIII-50, VIII-51, X-19, XIII-7, XIV-2, XVb-3, XVd-5, XVi-4, XVj-3

UNCTAD Vb-4, Vb-5, Vb-6, VIII-11, VIII-13, VIII-52, VIII-53, VIII-54, VIII-55, VIII-56, VIII-57, IX-4, X-12, X-13, XI-8, XVI-34, XVI-35, XVI-36, XVI-37

UNDP II-38

UNESCO II-43, II-53, II-54, II-55, II-56, Va-2, Va-7, VIII-55, XVI-5, XVI-38, XVII-13, XVII-15

UNIDO III-19, IV-20, IV-3, IV-19, IV-23, Va-6, Va-8, Va-9, Vb-1, Vb-2, Vb-3, Vb-7, Vb-8, Vb-9, Vb-10, Vb-11, VI-9, VI-12, VII-41, VIII-4, VIII-16, VIII-31, VIII-42, VIII-58, VIII-59, VIII-60, IX-12, X-1, X-3, X-10, X-20, X-21, X-22, X-23, X-24, X-25, X-26, X-27, XIV-3, XVc-1, XVe-2, XVe-19, XVf-4, XVg-1, XVg-3, XVg-4, XVg-5, XVh-1, XVh-2, XVh-3, XVII-3

UNITAR VIII-8, VIII-9, VIII-26, VIII-38, VIII-47, VIII-62, IX-7, XVi-3

UNRISD XII-11

U.S. Geological Survey XVj-4

VITA X-17, XVd-1, XVd-2

WAITRO I-7, IV-22, Va-6

World Bank VI-8, VI-11, XVe-20, XVe-21, XVf-1

WHO XIV-3

COUNTRY & REGION INDEX

ASIA general: II-50, II-55, VII-5, VIII-29, VIII-37, X-1, X-25, XI-3, XII-6, XVj-4, XVI-38

Bangladesh: XII-5

People's Republic of China: III-19, VII-18, XVe-1, XVI-2, XVI-6, XVI-8, XVI-9, XVI-15, XVI-16, XVI-30, XVI-31, XVI-32, XVI-33

Republic of China: XVe-11, XVi-2

Hong Kong: II-59

India: II-53, II-54, IV-2, VII-2, VII-41, VIII-5, VIII-8, VIII-19, VIII-32, X-8, X-9, X-12, X-14, X-15, X-20, X-27, X-28, XVa-3, XVa-5, XVI-24, XVI-27

Indonesia: III-6, IV-10, IV-11, IV-12, VII-28, VII-48, XVI-5, XVI-10, XVI-11

Japan: II-53, II-54, III-11, VI-4, VIII-19, VIII-37, VIII-38

Korea: VIII-21, VIII-22, VIII-27, VIII-48, XVi-2

Malaysia: IV-6, XVI-18

Pakistan: III-12, XII-4, XII-5, XII-10, XVa-1, XVI-4, XVI-7

Philippines: VII-21, X-13, XVI-26

Taiwan: III-6

Thailand: III-3, XVe-11, XVi-2, XVI-20

AFRICA general: I-4, Va-9, VII-17, VIII-55, X-11, XVe-17

Ethiopia: XVe-11, XVi-2, XVI-14, XVI-35

Ghana: III-6, IV-9

Kenya: VII-16, XVII-11

Liberia: XVI-17

Nigeria: VIII-19, X-2, X-7, XVi-2, XVI-13, XVI-27

Tanzania: XVI-28

Uganda: XVi-2

Upper Volta: XII-14

Zambia: XVI-40

LATIN AMERICA general: III-7, III-8, IV-20, IV-21, Va-1, VI-1, VII-27, VIII-30, VIII-34, VIII-35, VIII-36, VIII-49, VIII-51, VIII-57, X-15, X-26, XI-6, XIII-2, XVh-3, XVI-3, XVI-12, XVI-21, XVI-22, XVI-23, XVI-29, XVII-14

Argentina: XVI-1, XVII-11

Bolivia: Xb-10

Brazil: III-6, XI-1, XVg-1, XVi-2, XVI-19, XVI-27

Chile: II-28, Vb-10, XVI-34

Colombia: III-6, Vb-10, X-4, X-18, XVi-2

Ecuador: Vb-10, XVh-1

Mexico: VII-49, XI-2

Peru: Vb-10, XVe-14, XVI-39

EUROPE AND THE MIDDLE EAST - INCLUDING USSR

Arab Countries: XVI-41, XVI-42

Egypt: VIII-8

Hungary: XVI-36

Iran: III-10, VIII-8, IX-3, XVI-25

Ireland: VIII-3

Israel: II-21, XVI-42

Italy: X-15

Spain: XVI-37

Turkey: XVi-2

USSR: II-59, VIII-8, IX-5

SOUTHWEST PACIFIC

New Zealand: XVe-11